

Table 6-2

Probe No.	Base Sequence
31	aca cag act Tac cga gag a ( SEQ ID No :302)
32	g gag ggc aCg tgc gtg ( SEQ ID No :303)
33	ggg aag gaG acg ctg ga ( SEQ ID No :304)
34	g aag gag aCg ctg gag c ( SEQ ID No :305)
35	g gag ggc cTg tgc gtg ( SEQ ID No :306)
36	c gtg gag tCg ctc cgc ( SEQ ID No :307)
37	c ggg gag cTc cgc ttc ( SEQ ID No :308)
38	c gcc gcg Aac acg gcg ( SEQ ID No :309)
39	tg cgc ggc Gac tac aac ( SEQ ID No :310)
40	g gag ggc Ctg tgc gtg ( SEQ ID No :311)
41	g gcc cgt gTg gcg gag ( SEQ ID No :312)
42	g gag cag cTg aga gcc t ( SEQ ID No :313)
43	ca cag atc tCc aag acc aa ( SEQ ID No :314)
44	aca cag act Tac cga gag g ( SEQ ID No :315)
45	c cga gag Gac ctg cgg ( SEQ ID No :316)
46	cc ctg ctc Cgc tac tac ( SEQ ID No :317)
47	tat gac cag Gac gcc tac ( SEQ ID No :318)
48	agg tat ttc Gac acc gcc ( SEQ ID No :319)
49	c acc gcc Atg tcc cgg ( SEQ ID No :320)
50	gag ccg cCg gcg ccg ( SEQ ID No :321)
51	g gag ggc Acg tgc gtg ( SEQ ID No :322)
52	g agg aag agC tca ggt gg ( SEQ ID No :323)
53	cc gcg ctc Cgc tac tac ( SEQ ID No :324)
54	c ctg cgg aTc gcg ctc ( SEQ ID No :325)
55	g cgg atc gCg ctc cgc ( SEQ ID No :326)
56	tc gcg ctc Cgc tac tac ( SEQ ID No :327)
57	g aag gac aCg ctg gag c ( SEQ ID No :328)
58	ac aca cag aCc ttc aag ac ( SEQ ID No :329)
59	g acg atg taT ggc tgc ga ( SEQ ID No :330)
60	gg gac cgg Gac aca cag ( SEQ ID No :331)
61	ac cac cag Gac gcc tac ( SEQ ID No :332)

Table 6-3

Probe No.	Base Sequence
62	aac aca cag Gct gac cga (SEQ ID No:333)
63	gcc ctg ggC ttc tac cc (SEQ ID No:334)
64	c acc cag cTc aag tgg g (SEQ ID No:335)
65	ct tgg cag aCg atg tat gg (SEQ ID No:336)
66	t aac cag tTA gcc tac gac (SEQ ID No:337)
67	c tgc gac Ctg ggg ccg (SEQ ID No:338)
68	a tct tcc caA tcc acc gtc (SEQ ID No:339)
69	g aga gcc tGc ctg gag g (SEQ ID No:340)
70	acc ctc cag Tgg atg tat g (SEQ ID No:341)
71	a gca gga gaC aga acc ttc (SEQ ID No:342)
72	a tgg gag ccA tct tcc ca (SEQ ID No:343)
73	tc tac acc Gcc gtg tcc (SEQ ID No:344)
74	tcc atg agg Cat ttc tac ac (SEQ ID No:345)
75	g ggg ccg gaA tat tgg ga (SEQ ID No:346)
76	tc cgc aga C ac ctg gag (SEQ ID No:347)
77	g acg ctg Cag cgc gcg (SEQ ID No:348)
78	ctc tcg ggA gcc ctg g (SEQ ID No:349)
79	cgg gcg ccA tgg ata ga (SEQ ID No:350)
80	g gac cgg gaG aca cag at (SEQ ID No:351)
81	cg gag cag Tgg aga gcc (SEQ ID No:352)
82	t cag gac acC gag ctt gt (SEQ ID No:353)
83	c gac ggc aaA gat tac atc (SEQ ID No:354)
84	tgg acc gcG gcg gac a (SEQ ID No:355)
85	c gcc ctg aaI gag gac ct (SEQ ID No:356)
86	cag ttc gtg Cgg ttc gac (SEQ ID No:357)
87	gtg gtc gct Act gtg atg (SEQ ID No:358)
88	ag agg atg tIt ggc tgc g (SEQ ID No:359)
89	ca cag atc tGc aag acc aa (SEQ ID No:360)
90	agg atg gcI ccc cgg g (SEQ ID No:361)
91	tgc gtg gaC ggg ctc c (SEQ ID No:362)
92	gc tcc cac tTc atg agg t (SEQ ID No:363)

Table 6-4

Probe No.	Base Sequence
93	gcc tcc gcG cag act ta ( SEQ ID No :364)
94	tg gtg gtg cTt tct gga g ( SEQ ID No :365)
95	ac cac ccc Gtc tct gac ( SEQ ID No :366)
96	ac cgg gag aTā cag atc tc ( SEQ ID No :367)
97	g agg atg gCg ccc cgg ( SEQ ID No :368)
98	g agg atg tCt ggc tgc g ( SEQ ID No :369)
99	c gcg gac aAg gcg gct ( SEQ ID No :370)
100	cc ctc cag aCg atg tac g ( SEQ ID No :371)
101	c ctc cag acG atg tac gg ( SEQ ID No :372)
102	aac ctg cgC acc gcg c ( SEQ ID No :373)
103	ag gac ctg Agc tcc tgg ( SEQ ID No :374)
104	gc ttc atc Gca gtg ggc ( SEQ ID No :375)
105	atg gcg ccC cgg gcg ( SEQ ID No :376)
106	c gac gcc Acg agt ccg ( SEQ ID No :377)
107	cag ctg aga Acc tac ctg ( SEQ ID No :378)
108	cc aac aca cGg act tac c ( SEQ ID No :379)
109	ggg aAg gaG acg ctg ca ( SEQ ID No :380)
110	ac gac acg cTg ttc gtg a ( SEQ ID No :381)
111	ct tac cga gTg aac ctg c ( SEQ ID No :382)
112	c cga gtg aAc ctg cgg a ( SEQ ID No :383)
113	at aac cag tTc gcc tac ga ( SEQ ID No :384)
114	gtg agg ttc Aac agc gac ( SEQ ID No :385)
115	c acc cag cAc aag tgg g ( SEQ ID No :386)
116	cg gag cag cTg aga acc t ( SEQ ID No :387)
117	agg tat ttc Cac acc tcc g ( SEQ ID No :388)
118	a aag aca caT gtg acc cac ( SEQ ID No :389)
119	atc tcc aag aTc aac aca ca ( SEQ ID No :390)
120	g gcc cgt Cag gcg gag ( SEQ ID No :391)
121	g ata gag caA gag ggg cc ( SEQ ID No :392)
122	cag act tac Aga gag agc c ( SEQ ID No :393)
123	g aat atg taT ggc tgc gac ( SEQ ID No :394)

Table 6-5

Probe No.	Base Sequence
124	cgc ttc att Gca gtg ggc ( SEQ ID No :395)
125	gcc ctg aaG gag gac ct ( SEQ ID No :396)
126	ct tac cga gTg agc ctg c ( SEQ ID No :397)
127	g agg atg tGc ggc tgc g ( SEQ ID No :398)
128	g ata gag caA gag ggg cc ( SEQ ID No :399)
129	ca cag atc tGc aag gcc a ( SEQ ID No :400)
130	c ctg cgc aCc gcg ctc ( SEQ ID No :401)
131	cgc acc gCg ctc cgc ( SEQ ID No :402)
132	c ctc cag aaT atg tat ggc ( SEQ ID No :403)
133	gg ccg gag Cat tgg gac ( SEQ ID No :404)
134	tc tac cct gGg gag atc a ( SEQ ID No :405)
135	g gac acg gCA gct cag at ( SEQ ID No :406)
136	g ggg gca Gtg gcc ctg ( SEQ ID No :407)
137	gag gcc ggT tct cac ac ( SEQ ID No :408)
138	tcc cgg ccT ggc cgc ( SEQ ID No :409)
139	ac cac cag Cac gcc tac ( SEQ ID No :410)
140	acc tgg gcT ggc tcc c ( SEQ ID No :411)
141	g gtc acg gAg ccc cga ( SEQ ID No :412)
142	g ccg gag tTt tgg gac c ( SEQ ID No :413)
143	c ctc cag aaT atg tac ggc ( SEQ ID No :414)
144	c ctg cgg aCc ctg ctc ( SEQ ID No :415)
145	ct cag atc Tcc cag cgc ( SEQ ID No :416)
146	g ctg aga gcT tac ctg ga ( SEQ ID No :417)
147	c ggg cgc Ttc ctc cgc ( SEQ ID No :418)
148	at gac cag tTc gcc tac g ( SEQ ID No :419)
149	cgc ggg cat Aac cag ttc ( SEQ ID No :420)
150	cgg ccc gTc cgc ggg ( SEQ ID No :421)
151	gcg gac acC gcg gct c ( SEQ ID No :422)
152	tct cac atc Atc cag agc a ( SEQ ID No :423)
153	gtg ggg ccC gac ggg ( SEQ ID No :424)
154	acg gag ccC cgg gcg ( SEQ ID No :425)



Table 6-6

Probe No.	Base Sequence
155	t ccg agg aCg gag ccc ( SEQ ID No :426)
156	ac ctg cgc gAc tac tac a ( SEQ ID No :427)
157	g tcc gcc tGc gac ggc ( SEQ ID No :428)
158	tcc tgg acA gcg gcg g ( SEQ ID No :429)
159	c cga gag aAc ctg cgc a ( SEQ ID No :430)
160	g ggg ccg gGa tat tgg g ( SEQ ID No :431)
161	tg gag ggc Atg tgc gtg ( SEQ ID No :432)
162	g gag ggc aTg tgc gtg g ( SEQ ID No :433)
163	gcg gcg gaG acc gcg ( SEQ ID No :434)
164	g gag ggg ccA gaa tat tg ( SEQ ID No :435)
165	ct tgg cag aCg atg tac g ( SEQ ID No :436)
166	t tgg cag acG atg tac gg ( SEQ ID No :437)
167	cag cgg aga Acc tac ctg ( SEQ ID No :438)
168	ggc cgc ggA gag ccc ( SEQ ID No :439)
169	c acc ctC caC agg atg ta ( SEQ ID No :440)
170	cg gag cag Tgg aga acc ( SEQ ID No :441)
171	cag tgg aga Acc tac ctg ( SEQ ID No :442)
172	g atc acc cGg cgc aag t ( SEQ ID No :443)
173	c cag agc aCg tac ggc t ( SEQ ID No :444)
174	g gcg gcc cTt gtg gcg ( SEQ ID No :445)
175	acc tgg gcG ggc tcc c ( SEQ ID No :446)
176	gtc acg gCA ccc cga ac ( SEQ ID No :447)
177	agg tat ttc Cac acc gcc ( SEQ ID No :448)
178	gt ccg agg Aag gag ccg ( SEQ ID No :449)
179	g cgc aag tTg gag gcg g ( SEQ ID No :450)
180	acc tgg gcT ggc tcc c ( SEQ ID No :451)
181	tgc gtg gaT tgg ctC cg ( SEQ ID No :452)
182	cat aac cag Aac gcc tac g ( SEQ ID No :453)
183	t tgg gac cCg gag aca c ( SEQ ID No :454)
184	atc atc cag Gtg atg tat gg ( SEQ ID No :455)
185	gac ggc aag Aat tac atc g ( SEQ ID No :456)

Table 6-7

Probe No.	Base Sequence
186	at aac cag tCc gcc tac g (SEQ ID No :457)
187	ctg cgg aaG ctg cgc g (SEQ ID No :458)
188	t cac act tgG cag agg atg (SEQ ID No :459)
189	c acg ctg Cag cgc gcg (SEQ ID No :460)
190	ac cat gag gTc acc ctg a (SEQ ID No :461)
191	a cag atc tCG aag acc aac (SEQ ID No :462)
192	gcc cgt gtC gcg gag c (SEQ ID No :463)
193	g cgc acc Gcg ctc cg (SEQ ID No :464)
194	c cgc ttc atI gca gtg gg (SEQ ID No :465)
195	c ctg cgc aCc ccg ctc (SEQ ID No :466)
196	cc ccg ctc Cgc tac tac (SEQ ID No :467)
197	g tat tgg gaG cgg gag ac (SEQ ID No :468)
198	gc ggg cat Aac cag gac (SEQ ID No :469)
199	cat aac cag Gac gcc tac (SEQ ID No :470)
200	ctc cgc ggg Tat aac cag (SEQ ID No :471)
201	ccg tgg gtG gag cag g (SEQ ID No :472)
202	g cgg atc Gcg ctc cgc (SEQ ID No :473)
203	c acg ctg tTG gtg agg tt (SEQ ID No :474)
204	c ctg tgc gCg gag tCG (SEQ ID No :475)
205	gat tac atc Acc ctg aac g (SEQ ID No :476)
206	gg tat aac cGg tta gcc ta (SEQ ID No :477)
207	ag gac aga gTc tac ctg g (SEQ ID No :478)
208	aag tac aag Cgc cag gca (SEQ ID No :479)
209	ca cag act gGc cga gtg a (SEQ ID No :480)
210	gct gct gtg Gtg tgt agg (SEQ ID No :481)
211	aac ctg ctc Cgc tac tac (SEQ ID No :482)
212	cag aag tgg Aca gct gtg (SEQ ID No :483)
213	cag cgc gcG gac ccc (SEQ ID No :484)
214	c ttc atc tCt gtg ggc ta (SEQ ID No :485)
215	c gtg gag Ggg ctc cgc (SEQ ID No :486)
216	cg ctc cgc Gac tac aac (SEQ ID No :487)

Table 6-8

Probe No.	Base Sequence
217	c ggg cat aaA cag tac gc ( SEQ ID No:488)
218	c ctc cgc ggT tat aac ca ( SEQ ID No:489)
219	c ctc ctc cCc ggg cat ( SEQ ID No:490)
220	g acg gag Acc cgg gcg ( SEQ ID No:491)
221	g gag ggg cGg gag tat t ( SEQ ID No:492)
222	gca gga gat Gga acc ttc ( SEQ ID No:493)
223	g ggg ctg cTg aag ccc ( SEQ ID No:494)
224	cgg gtc aCg gcg ccc ( SEQ ID No:495)
225	t ccg agg aCg gag ccg ( SEQ ID No:496)
226	cga gag aac Ttg cgg atc ( SEQ ID No:497)
227	c gcg agt cAg agg acg g ( SEQ ID No:498)
228	g gag ccc cCc ttc atc g ( SEQ ID No:499)
229	g ggg ccg gCg tat tgg ( SEQ ID No:500)
230	t ccg aga gGg gag ccg ( SEQ ID No:501)
231	ct tgg cag aTg atg tat gg ( SEQ ID No:502)
232	g tac aag gGc cag gca c ( SEQ ID No:503)
233	tc atc cag gTg atg tat gg ( SEQ ID No:504)
234	t gac cag tcT gcc tac ga ( SEQ ID No:505)
235	gcg gac acA gcg gct c ( SEQ ID No:506)
236	tat tgg gac Ggg gag aca ( SEQ ID No:507)
237	cgc ggg tat Aac cag tac ( SEQ ID No:508)
238	ct cag atc aTc cag cgc a ( SEQ ID No:509)
239	c gcg ctc cCc tac tac a ( SEQ ID No:510)
240	at tgg gac gAg gag aca c ( SEQ ID No:511)
241	gcc cgt gCg gcg gag ( SEQ ID No:512)
242	g aag gag aCg ctg cag c ( SEQ ID No:513)
243	gcg agt ccA aga ggg ga ( SEQ ID No:514)
244	gct gtg gtC gct gtg gt ( SEQ ID No:515)
245	c ctg gag gAc ctg tgc g ( SEQ ID No:516)
246	a gct gtg gtT gct act gtg ( SEQ ID No:517)

## Table 7

## Allele-Probe List 1

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5	B*070203	10								
	B*0703	11								
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	B*0706	13								
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	B*0711	20	18							
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	B*0713	25	26	27						
	B*0714	28	21	29	30					
	B*0715	31	27							
	B*0716	11	32							
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	B*0718	28	22							
	B*0719	12	34	35	36					
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10 B\*4803 80 43 31 15 13 179 41  
B\*4804 213 212  
B\*4805 214 80 43 31 13  
B\*4806 16 31 13 179 41  
B\*4807 113 179 41  
15 B\*4901 176 56 42 82 87 52  
B\*4902 130 53 66 42 82  
B\*4903 154 54 56 22 200 66 42 35  
B\*5001 176 42 82 87 52  
B\*5002 176 42 36 82 87 52  
20 B\*5004 106 200 66 42 35  
B\*510101 194 16 56 65 42 76 95 52  
B\*510102 16 56 65 42 76 95 52  
B\*510103 194 16 56 65 59 83 103 42 35 76  
B\*510104 194 79 16 56 65 59 13 103 42 35 76  
25 B\*510105 118 95 87  
B\*510201 194 16 56 65 83 103 42 35 95 52  
B\*510202 16 56 65 83 103 42 35 95 52

- B\*5103 215 95
- B\*5104 20 42 76 95 52
- B\*5105 56 83 103 41 35 95
- B\*5106 194 79 16 56 83 103 42 35 76
- 5 B\*5107 194 155 43 56 65 59 83 103 42 35 76
- B\*5108 12 76 95 52
- B\*5109 194 41 42 35 76
- B\*5110 56 65 59 13 41 42 95
- B\*5112 216
- 10 B\*511301 194 113 103 42 35 76
- B\*511302 194 113 83 103 42 35 76
- B\*5114 217
- B\*5115 54 56 65 59 67 66 41 42 35
- B\*5116 194 79 16 56 65 59 83 103 42 76
- 15 B\*5117 218
- B\*5118 219
- B\*5119 194 107 35 76
- B\*5120 194 12 35 76
- B\*5121 194 83 32 76
- 20 B\*5122 194 89 56 65 59 83 103 42 35 76
- B\*5123 194 42 36
- B\*5124 194 79 16 56 65 59 13 42 35 76
- B\*5126 220
- B\*5128 221
- 25 B\*5129 194 16 56 65 76 95
- B\*5130 95 222
- B\*5131 194 83 41 42 76

- B\*5132 223  
B\*5133 92 76  
B\*5134 194 79 16 56 65 59 83 103 151 42  
B\*520101 224 43 56 65 42 76 95 52  
5 B\*520102 194 43 56 65 42 76 95 52  
B\*520103 225 80 43 56 65 59 83 42 35 76  
B\*520104 226  
B\*5202 194 97 80 43 56 65 59 83 103 42 35 76  
B\*5203 194 43 41 42 35  
10 B\*5204 227  
B\*5205 228  
B\*5301 30 56 20 21 17 103 41 42 35 95 52  
B\*5302 56 17 41 42 35 76  
B\*5303 45 42 35 77  
15 B\*5304 54 56 23 148 103 151 41 42 35 77  
B\*5305 30 54 55 56 20 21 22 23 17 103 151 41 42 35 77  
B\*5306 194 17 103 42 35 76  
B\*5307 98 42 35  
B\*5308 30 19 54 55 56 20 21 22 23 17 103 151 42 35 77  
20 B\*5309 102 17 151 41 42 40 35 77  
B\*5401 86 52  
B\*5402 117 86 32  
B\*5501 176 32 87 52  
B\*5502 176 41 32 87 52  
25 B\*5503 26 66 32 77  
B\*5504 49 104 10 13 151 41 42 32 109 77  
B\*5505 229

- B\*5507 49 230 66 77
- B\*5508 104 10 15 13 151 41 42 35 77
- B\*5509 49 104 10 65 59 67 66 151
- B\*5510 65 59 67 66 41 32
- 5 B\*5511 231 32 77
- B\*5512 176 19 41 32 87 52
- B\*5601 176 59 41 42 35 87 52
- B\*5602 176 41 42 35 87 52
- B\*5603 176 81 82 87 52
- 10 B\*5604 104 10 66 41 42 35
- B\*5605 194 10 65 59 83 103 42 35 76
- B\*5606 194 155 79 65 59 83 103 42 35 76
- B\*5607 10 130 53 65 59 67 66 41 42 35
- B\*5608 232 42 35 77
- 15 B\*5609 104 10 20 21 22 23 17 103 151 41 42 35 77
- B\*5610 49 104 10 67 66 41 32
- B\*5611 176 23 151 41 42 35 77 63
- B\*570101 233 17 42 68
- B\*570102 234
- 20 B\*5702 13 68
- B\*570301 13 42 68
- B\*570302 235
- B\*5704 184 47 41 77
- B\*5705 236 200 237 41 35
- 25 B\*5706 238
- B\*5707 184 36 77
- B\*5708 239

- B\*5709 184 12 77  
B\*5801 236 20 87 52  
B\*5802 70 52  
B\*5804 240  
5 B\*5805 241  
B\*5806 70 35  
B\*5807 70 36  
B\*5901 176 56 41 32 87 52  
B\*670101 75 15 116 107 71 72  
10 B\*670102 15 149 113 41 116 107 32 242  
B\*6702 243  
B\*7301 244  
B\*7801 194 16 65 42 76 95 52  
B\*780201 16 31 65 42 76 95 52  
15 B\*780202 194 79 16 31 65 59 83 103 42 35 76  
B\*7803 194 89 11 65 59 83 103 42 35 76  
B\*7804 83 103 41 42 35 95  
B\*7805 155 154 80 43 31 65 59 83 42 35 76  
B\*8101 136 212  
20 B\*8201 245  
B\*8202 246  
B\*8301 136 49 20 29 47 12 35 36 77



(Example 5)

Probes for identification of HLA-C allele

Extraction of DNA from 1 ml of human blood was performed using GFX Genomic Blood DNA Purification  
5 Kit from Amersham Biosciences in the same manner as in Example 1.

Next, quantitative PCR was carried out in the same manner as in Example 1 except that probes in the probe list in Tables 9-1 to 9-4 were used  
10 respectively, and 3  $\mu$ l of the mixed primers consisting of 1  $\mu$ l each of the respective solutions of the following primers (10 pmol/ $\mu$ l) was used:  
AAACACGGTCACCTCAGGGGGAT (SEQ ID NO: 340)  
GGCCTGAGTGTGGTTGGAACG (SEQ ID NO: 341)  
15 CCAGCTCGTAGTTGTGTCTGCA (SEQ ID NO: 342).

After PCR amplification, the sample was identified being Cw\*120202, referring to Amp Plot and Dissociation curves on a display of 5700 software and the allele-probe list in Tables 11-1 to 11-4.

20 (Example 6)

Extraction of DNA from 1 ml of human blood was performed in the same manner as in Example 1. PCR of human HLA-C was then performed in the same manner as in Example 2 except that 6  $\mu$ l of the mixed primer  
25 consisting of 1  $\mu$ l each of the solutions containing the following sequences at 10 pmol/ $\mu$ l respectively and 9  $\mu$ l of ultra pure water was used.

AAACACGGTCACCTCAGGGGGAT (SEQ ID NO: 340)

GGCCTGAGTGTGGTTGGAACG (SEQ ID NO: 341)

CCAGCTCGTAGTTGTGTCTGCA (SEQ ID NO: 342)

CCATGTGTCAACTTATGCC (SEQ ID NO: 343)

5 AGAATTACCTTTTCCAG (SEQ ID NO: 344)

AGAATTACGTTTCCAG (SEQ ID NO: 345)

At the same time, a DNA microarray was prepared to identify the allele in the specimen in the same manner as in Example 2. Probes in Tables 10-1 to 10-4 were used for the probe spots respectively.

Then, hybridization and fluorescence determination was performed using the above-prepared sample and the DNA microarray in the same manner as in Example 2 and the sample was identified as  
15 Cw\*120202 referring to the probe-allele list in Tables 12-1 to 12-4.

#### Allele list

Cw\*0102 :

20 atgcgggicalggcgccccgaaccccaicclgcclgcclcgaggagccclggccctgaccgagacctgggcccgc  
cccacitccatgaagiatlclccacalcgclgcccggccggccggagagccccgcclccclccaglgggcl  
cglggacgacacgcagilcglcgglcgcagcgcgcgcgaglcgagaggggagccgcggcgccgllggglg  
gagcaggaggggcccggaglatlgggaccgggagacacagaagtaacagccaggcacagactgaccgaglgagcc  
lgcggaacctgcgggclactacaaccagagcgaggccgggclccacacccclccagtggaatglggclgcgacct  
25 gggggcccgacggcgccclccclccggglatgaccaglaagcctacgacggcaaggallacalcgccclgaacgag  
gacctgcgclccclggaccgcccgggacacCgcggclcagalcacccagcgaaglgggaggcgcccgltgaggcgg  
agcagcggagagccclacclggagggcacglgcglggagtgccclccgcagataccclggagaacgggaaggagacgcl

gcagcgcgcggaacacccaaagacacacgtagccaccaatcccgtctcagacatgaggccacccagaggctgagg  
gcccctgggcttctacccatgcggagatcacacagaccatggcagtaggagtagggaggaccaaacacaggacaccgagc  
tttggagaccaggccagcaggagatggaaccttccagaagtagggcagctgtgtaggtgaccttctggagaagagca  
gagatacacgtgccatgtgcagcacgaggggctgccggagccccacccatgagatgggagccgtcttcccagccc  
5 accatccccaatcgtgggcatcgttgcctggcctggctgttctggcgttcttagctgttctaggagctgtggtaggctg  
tttgaatgttaggaggaagagctcaggtaggaaaaggaggagcgtctcaggctgcgtccagcaacagtgccca  
gggctctgatgagctctctcatcgctgttaa (SEQ ID NO:1);

Cw\*0103 :

atgcgggcatggcgccccgaacctcatctgtctcctcgggagccctggcccagaccagaccatgggctgtc  
10 cccacatccatgaagatattcttcacatccgtgtccggccatggccgaggagaccccgcttcatctcagtagggct  
cgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgcccggcggcgtgggtg  
gagcaggaggggcccggagatattgggacgggagacacagaagtaaacgcccagggcacagactgaccgagttagcc  
tgcggaacctgcgcggctatcacaaccagagcgagggccgggtctcacacctccagtaggtgtgtggctgcgacct  
ggggcccgacgggcccctctccgcccgtatAaccagttcgctacgacggcaaggattacatcgccctgaacgag  
15 gacctgcgtctctggaccgcccggacaccgcccctcagatcacccagcgcaagtgggagggccggccgtgaggcgg  
agcagcggagagcctacctggagggcacgtgcgtggagtaggctccgcagatacctggagaacgggaaggagacgt  
gcagcgcgcggaacacccaaagacacacgtagccaccaatcccgtctcagacatgaggccacccagaggctgagg  
gcccctgggcttctacccatgcggagatcacacagaccatggcagtaggagtagggaggaccaaacacaggacaccgagc  
tttggagaccaggccagcaggagatggaaccttccagaagtagggcagctgtgtaggtgaccttctggagaagagca  
20 gagatacacgtgccatgtgcagcacgaggggctgccggagccccacccatgagatgggagccgtcttcccagccc  
accatccccaatcgtgggcatcgttgcctggcctggctgttctggcgttcttagctgttctaggagctgtggtaggctg  
tttgaatgttaggaggaagagctcaggtaggaaaaggaggagcgtctcaggctgcgtccagcaacagtgccca  
gggctctgatgagctctctcatcgctgttaa (SEQ ID NO:2);

Cw\*0104 :

atgcgggcatggcgccccgaacctcatctgtctcctcgggagccctggcccagaccagaccatgggctgtc  
25 cccacatccatgaagatattcttcacatccgtgtccggccatggccgaggagaccccgcttcatctcagtagggct  
cgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgcccggcggcgtgggtg

gagcaggaggggcccggagiatl tgggaccgggagacacagaagtaaaagcgccaggcacagac l gaccgag l gaggcc  
l gcggaacc l ggcggc l actlacaaccagagcgaggccggg l c l caccaccc l ccag l gga l g t l ggc l gcgac c l  
ggggcccgcacgggccc l c c l ccgcggg l a l gaccag l ccgc l acgacggcaaggat l acalcgccc l gaacgag  
gacc l ggc l c c l g gaccgc Tgcggacacggcggc l cagal caccagcgcaag l gggaggcggccc g l gaggcgg  
5 agcag l ggagagcc l acc l ggagggcac g l g c l g g a g l ggc l ccgcagat l acc l ggagaacgggaaggagac g c l  
gcagcgcgcggaacacccaaagacacac g l gacccac c l cccg l c l c l gacca l gaggccaccc l gagg l g c l gg  
ggcc l gggc l c l c l acc l g cggagat c acac l gacc l ggcagcggga l ggcgaggaccaaac l caggacaccgagc  
l l g l ggagaccaggccagcaggagat l ggaacc l l ccagaag l gggcagc l g l g g l ggc l c l c l ggagaagagca  
gagatacac g l gcca l g l g cagcacagggggc l gccAgagcccc l cacc l gaga l gggagccat c l l cccagccc  
10 accatccccatcg l gggcatcg l tgc l ggc l ggc l g t c c l ggc l g t c c l agc l g t c c l aggagc l g t g A l ggc l g  
l l g l gat l g l g l aggaggaagagc l cagg l g g a a a g g a g g g a g c l g c l c l caggc l g c g l ccagcaacag l g c c c a  
gggc l c l g a l g a g l c l c l c a t c g c t l g t a a (SEQ ID NO:2);

Cw\*0105 :

gc l c c c a c t c c a t g a a g t a t l l c l l c a c a l c c g l g l c c c g g c c l g g c c g c g g a g a g c c c c g c l l c a l c l c a g l g g g  
15 c l a c g l g g a c g a c a c g c a g l t c g l g c g g l l c g a c a g c g a c g c c g c g a g l c c g a g a g g g g a g c c g c g g g c g c c g l g g  
g l g g a g c a g g a g g g g c c g g a g i a t l g g g a c c g g g a g a c a c a g a a g t a a a g c g c c a g g c a c a g a c l g a c c g a g l g a  
g c c l g c g g a a c c l g c g c g g c l a c t a c a a c c a g a g c g a g g c c g g g l c l c a c a c c c l c c a g a g g a l g t l g g c l g c g a  
c c l g g g g c c c g a c g g g c g c c l c c l c c g c g g g l a l g a c c a g l a c g c c l a c g a c g g c a a g g a t l a c a l c g c c c l g a a c  
g a g g a c c l g c g c l c c l g g a c c g c c g g a c a c c g c g g c l c a g a l c a c c a g c g c a a g l g g g a g g c g g c c c g l g a g g  
20 c g g a g c a g c g g a g a g c c l a c c l g g a g g g c a c g l g c g l g g a g l g g c l c c g c a g a l a c c l g g a g a a c g g g a a g g a g a c  
g c l g c a g c g c g c g g (SEQ ID NO:4);

Cw\*0106 :

gc l c c c a c t c c a t g a a g t a t l l c l l c a c a l c c g l g l c c c g g c c l g g c c g c g g a g a g c c c c g c l l c a l c l c a g l g g g  
c l a c g l g g a c g a c a c g c a g l t c g l g c g g l l c g a c a g c g a c g c c g c g a g l c c g a g a g g g a g c c g c g g g c g c c g l g g  
25 g l g g a g c a g g a g g g g c c g g a g i a t l g g g a c c g g g a g a c a c a g a a g t a a a g c g c c a g g c a c a g a c l g a c c g a g l g a  
g c c l g c g g a a c c l g c g c g g c l a c t a c a a c c a g a g c g a g g c c g g g l c l c a c a c c c l c c a g l g g a l g t l g g c l g c g a  
c c l g g g g c c c g a c g g g c g c c l c c l c c g c g g g l a l g a c c a g l a c g c c l a c g a c g g c a a g g a t l a c a l c g c c c l g a a c

gaggaccigcgcicctggaccgccgacaccggcicagatcaccagcgcaagtgaggaggcgcccgTgg  
cggagcagcggagagcciacctggaggcacgtgcgtggagtggtccgcagataccggagaacgggaaggagac  
gctgcagcgcgcgg(SEQ ID NO:5);

Cw\*0107:

5 gctcccacitccatgaaglatitctcacatccgtgicccggccTggccgaggagagccccgtitcatctcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgcgggcgccgtgg  
gtggagcaggagggcgaggatitggaccgggagacacagaagtaagcgccaggcacagacTgaccgagtga  
gccTgcggaacctgcgcggctactacaaccagagcgaggccgggtctcacacccTccagtggatgtgtggctgcga  
ccTggggcccgacgggcgctccTccgcAggtatgaccagtacgctacgacggcaaggattacatcgccctgaac  
10 gaggaccigcgcicctggaccgccgacaccggcicagatcaccagcgcaagtgaggaggcgcccgTgagg  
cggagcagcggagagcciacctggaggcacgtgcgtggagtggtccgcagataccggagaacgggaaggagac  
gctgcagcgcgcgg(SEQ ID NO:6);

Cw\*0108:

gctcccacitccatgaaglatitctcacatccgtgicccggccTggccgaggagagccccgtitcatctcagtggg  
15 ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgcgggcgccgtgg  
gtggagcaggagggcgaggatitggaccgggagacacagaagtaagcgccaggcacagacTgaccgagtga  
gccTgcggaacctgcgcggctactacaaccagagcgaggccgggtctcacacccTccagtggatgtgtggctgcga  
ccTggggcccgacgggcgctccTccgcgggtatgaccagtacgctacgacggcaaggattacatcgccctgaac  
gaggaccTgcgcicctggaccgccgacaccggcicagatcaccagcgcaagtgaggaggcgccTgtgagg  
20 cggagcagcggagagcciacctggaggcacgtgcgtggagtggtccgcagataccggagaacgggaaggagac  
gctgcagcgcgcgg(SEQ ID NO:7);

Cw\*0109:

gctcccacitccatgaaglatitctcacatccgtgicccggccTggccgaggagagccccgtitcatctcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgcgggcgccgtgg  
25 gtggagcaggagggcgaggatitggaccgggagacacagaagtaagcgccaggcacagacTgaccgagtga  
gccTgcggaacctgcgcggctactacaaccagagcgaggccgggtctcacacccTccagtggatgtgtggctgcga  
ccTggggcccgacgggcgctccTccgcgggtatgaccagtacgctacgacggcaaggattacatcgccctgaac

gaggaccatgcgtccctggaccgccgacacccggcctcagatcaccagcgcaagtgaggaggcgccctgagg  
cggagcagTggagagccctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgccggg(SEQ ID NO:8);

Cw\*020201 :

5 atgcgggicalggcgccccgaacctccctccctgcctgcctcgggagccctggccctgaccgagaccctggccctgct  
cccacitccatgaggatattctacaccgctgtgtccggccagcccgaggagccccacttcatcgcagtgggctta  
cgtggacgacacgcagtcgtgcggctcgacagcgaccccgagltccaagaggggagccgccccgcccgggtg  
gagcaggagggggccggagtatgggaccgggagacacagaagtaaacgccaggcacagactgaccgagtgaacc  
tgcggaaactAcgcggtctatcaaacagagcgaggccgggtctcacacctccagaggatgtacggctgcgacct  
10 ggggcccgcagggcgccctccctccgctggatgaccagtcgcttacgacggcaaggattacatgcccctgaacgag  
gacctgcgtccctggaccgccgacacagcggtcagatcaccagcgcaagtgaggaggcgccctgaggcgg  
agcagtgagagccctaccctggagggcgagtcgtggagtggtccgcagataccctggagaacgggaaggagacgt  
gcagcgcgcggaacacccaaagacacagtgacctaccatcccgctctgacctgaggccacctgaggctgtgg  
gcccctgggtctctacctacggagatcacactgacctggcagcggtggcgaggaccaaactcaggacaccgagc  
15 ttgtggagaccaggccagcaggagatggaacctccagaagtgggcagctgtgtgtgtgtgtctctggagaagagca  
gagatacacgtgccatgtgcagcacgaggggtgccggagccccctacctgagatgggagccaactctccagccc  
acctccccatcgtgggcatcgtgtcgtggctggctgtcctggctgtcctagctgtcctaggagctgtgtgtgtgt  
ttgtgatgtgtaggaggaagagctcaggctggaaaaggaggagcgtcctcaggctgcgtccagcaacagtgtccca  
gggctctgatgagctctctatcgttgttaa(SEQ ID NO:9);

20 Cw\*020202 :

atgcgggicalggcgccccgaacctccctccctgcctgcctcgggagccctggccctgaccgagaccctggccctgct  
cccacitccatgaggatattctacaccgctgtgtccggccagcccgaggagccccacttcatcgcagtgggctta  
cgtggacgacacgcagtcgtgcggctcgacagcgaccccgagltccaagaggggagccgccccgcccgggtg  
gagcaggagggggccggagtatgggaccgggagacacagaagtaaacgccaggcacagactgaccgagtgaacc  
25 tgcggaaactgcgcggtctatcaaacagagcgaggccgggtctcacacctccagaggatgtacggctgcgacct  
ggggcccgcagggcgccctccctccgctggatgaccagtcgcttacgacggcaaggattacatgcccctgaacgag  
gacctgcgtccctggaccgccgacacagcggtcagatcaccagcgcaagtgaggaggcgccctgaggcgg

agcagtggagagcctacciggagggcgagtcgctggagtggctccgcagatacciggagaacgggaaggagacgct  
gcagcgcgcggaacacccaaagacacacgtgacccaccatcccgctctlgaccaaggccacccigaggtgctgg  
gcccgggcttctacctAcggagatcacactgacctggcagcgggaaggcgaggaccaaactcaggacaccgagc  
ttgtggagaccaggccagcaggagatggaacctccagaagtgggcagctgtgggtggcttctlgagaagagca  
5 gagatacacgtgccatgtgcagcacgaggggctgcccggagccccctaccctlgatgggagccatctccagccc  
accatccccatcgtgggcatcgtgtcggcctggctgtccggcgttcctagctgtccaggagctgtgggtggctg  
ttgtgaltgtlaggaggaagagctcaggtaggaaaaggaggagcgtctcaggctgcgtccagaacagtgccca  
gggctctgaltgagtcctcaltcgttgtlaa (SEQ ID NO:10);

Cw\*020203 :

10 gctcccacitcatgaggtatttctacaccgctgtgtcccggcccagccgcggagagccccacttcatcgcatggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagttcaagaggggagccgcgggcgccgtgg  
gtggagcaggagggggcggagtattgggaccgggagacacagaagtacaagcgccaggcacagactgaccgagtga  
acctgcggaaactgcgcggctactacaaccagagcgaggccgggtctcacacctccagaggatgtatggctgcga  
cctggggcccgacgggcgcttctccgcgggtatgaccagtcgcctacgacggcaaggattacatcgccctgaac  
15 gaggacctgcgtcctggaccgccgcggacacAgcggctcagatcacccagcgcaagtgggaggcggcccgtaggg  
cggagcagTggagagcctacciggagggcgagtcgctggagtggctccgcagatacciggagaacgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:11);

Cw\*020204 :

atgggggtcatggcgccccgaacccctcctcgtgtctcgggagcccggcccagaccgggctgct  
20 cccactccatgaggtatttctacaccgctgtgtcccggcccAgccgcggagagccccacttcatcgcatgggctta  
cgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagttcaagaggggagccgcgggcgccgtgggtg  
gagcaggagggggcggagtattgggaccgggagacacagaagtacaagcgccaggcacagactgaccgagtgaacc  
tgcggaaactgcgcggctactacaaccagagcgaggccgggtctcacacctccagaggatgtacggctgcgacct  
ggggcccgacgggcgcttctccgcgggtatgaccagtcgcctacgacggcaaggattacatcgccctgaacgag  
25 gacctgcgtcctggaccgccgcggacacGcggctcagatcacccagcgcaagtgggaggcggcccgtagggcgg  
agcagtggagagcctacciggagggcgagtcgctggagtggctccgcagatacciggagaacgggaaggagacgct  
gcagcgcgcggaacacccaaagacacacgtgacccaccatcccgctctlgaccaaggccacccigaggtgctgg

gccciggccttctacccigcggagatcacactgacctggcagcgggaiggcaggaccaaactcaggacaccgagc  
ttgtggagaccaggccagcaggagatggaaccttcagaagtgggcagctgtgggtggcttctggagaagagca  
gagatcacgigccatgtgcagcacgaggggcigccggagccccacccctgagatgggagccAicttccagccc  
accatccccatcgtgggcaicgtlgtcggcggcgtgtccctggctgtcctagctgtcctaggagctgtgggtggcgtg  
5 ttgtgatgtgtaggaggaagagctcag (SEQ ID NO:12);

Cw\*020205 :

gctcccacttccatgaggtatcttctacaccgctgtgtccccggcccAgccgcggagagccccacttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagltccaagaggggagccgcggcgccgtgg  
gtggagcaggagggggccggaglatlgggaccgggagacacagaagtacaagcgccaggcacagacigaccgagtga  
10 accigcggaaactgcgcggctactacaaccagagcgaggccgggtctcacacctccagAggatgtatggctgcga  
ccitggggcccgacgggcgcttctccgcgggtatgaccagttcgccctacgacggcaaggattacatcgccctgaac  
gaggacctgcgctcctggaccgccgcggacacGcggctcagatcaccagcgcaagtgaggagcgcccgctgagg  
cggagcagTggagagccctaccitggagggcgAggtgcgtggagtggttccgcagataccitggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:13);

15 Cw\*0203 :

gctcccacttccatgaggtatcttctacaccgctgtgtccccggcccagccgcggagagccccacttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagltccaagaggggagccgcggcgccgtgg  
gtggagcaggagggggccggaglatlgggaccgggagacacagaagtacaagcgccaggcacagacigaccgagtga  
accigcggaaactgcgcggctactacaaccagagcgaggccgggtctcacacctccagaggatgtacggctgcga  
20 cctggggcccgacgggcgcttctccgcgggtatgaccagttcgccctacgacggcaaggattacatcgccctgaac  
gaggacctgcgctcctggaccgccgcggacacagcggctcagatcaccagcgcaagtgaggagcgcccgctgTgg  
cggagcagctgagagccctaccitggagggcgAggtgcgtggagtggttccgcagataccitggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:14);

Cw\*0204 :

25 gctcccacttccatgaggtGtttctacaccgctgtgtccccggcccagccgcggagagccccacttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagltccaagaggggagccgcggcgccgtgg  
gtggagcaggagggggccggaglatlgggaccgggagacacagaagtacaagcgccaggcacagacigaccgagtga



accTgcggaaacTgcgcggcTactacaaccagagcgaggccgggtTcacacccTccagaggatTlacggcTgcga  
ccTggggcccgacgggcgcctccTccgcgggtatgaccagTccgcctacgacggcaaggattacatcgccctgaac  
gaggaccTgcgcTccTggaccgcccgggacacagcggtcagatcaccagcgcaagTgggaggcgcccgTgagg  
cggagcagTggagagccTaccTggagggcgagTgcTggagTggcTccgcagataccTggagaacgggaaggagac  
5 gctgcagcgcgcg (SEQ ID NO:15);

Cw\*0205 :

gtTcccacTccatgaggTattTctacaccgctgtTcccggcccAgccgcggagagccccacTtcaTgcagTggg  
ctacTggacgacacgcagTtcgtTgcggTtcgacagcgacgccgcgagTccaagaggggagccgcgggcgcctTgg  
gtTggagcaggaggggcccggagTatTgggaccgggagacacagaagTacaagcgccaggcacagacTgaccgagTga  
10 accTgcggaaacTgcgcggcTactacaaccagagcgaggccgggtTcacacccTccagTggatTgtatggcTgcga  
ccTggggcccgacgggcgcctccTccgcgggtatgaccagTccgcctacgacggcaaggattacatcgccctgaac  
gaggaccTgcgcTccTggaccgcccgggacacGcgggcTcagatcaccagcgcaagTgggaggcgcccgTgagg  
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gctgcagcgcgcg (SEQ ID NO:16);

15 Cw\*0206 :

gtTcccacTccatgaggTattTctacaccgctgtTcccggcccagccgcggagagccccacTtcaTgcagTggg  
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gtTggagcaggaggggcccggagTatTgggaccgggagacacagaagTacaagcgccaggcacagacTgaccgagTga  
accTgcggaaacTgcgcggcTactacaaccagagcgaggccgggtTcacacccTccagaggatTlacggcTgcga  
20 ccTggggcccgacgggcgcctccTccgcgggtatgaccagTtAgccTacgacggcaaggattacatcgccctgaac  
gaggaccTgcgcTccTggaccgcccgggacacggcggtcagatcaccagcgcaagTgggaggcgcccgTgagg  
cggagcagTggagagccTaccTggagggcgAgTgcTggagTggcTccgcagataccTggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:17);

Cw\*030201 :

25 atTggggTcatTggcggccgaacccTcaTccTgtTgtTcTcgggagcccTggccctgaccgagaccTgggcggcT  
cccacTccatgaggTattTctacaccgctgtTcccggcccggccgcgggagccccacTtcaTgcagTgggTla  
cgTggacgacacgcagTtcgtTgcggTtcgacagcgacgccgcgagTccgagaggggagccgcgggcgcctTgggtT

gagcaggagggcgaggatattgggaccgggagacacagaagtaacagccaggcacagacagaccagatgagcc  
tgcggaacctgcgcggctactacaaccagagcgaggccgggtcacatccaccagaggatglatggctgcgacgt  
ggggcccgacggcgccctcccgcggtatgaccagtcgacctacgacggcaaggattacatgccccgaacgag  
gatctgcgtccctggaccgcccggacacggcggctcagatcaccagcgcaagtgggaggcgcccgtagggcgg  
5 agcagctgagagccctaccggaggccctgtgcgtggagtggctccgcagataccatgaagaatgggaaggagacgct  
gcagcgcggaacacccaaagacacacgtgaccacacatcccgctcttgacctgaggccacctgaggctcgg  
gccccgggtcttacctgcggagatcacatgacctggcagtggaatgggaggaccacaaactcaggacacTgagc  
ttgtggagaccaggccagcaggagatggaaccttcagaagtgggcagctgtgggtggctctctggagaagagca  
gagatcacgtgccatgtgcagcacgaggggtgcccggagccccacacctgagatgggagccAacctccagccc  
10 accatccccatcgtagggcatcgtgtctggccggctgtctggctgtcttagctgtcttaggagctgtgggtggctg  
ttgtgatgtgtaggaggaagagctcaggatggaaaaggaggagctgtctcaggctgcgtccagcaacagtgccta  
gggtctgatgagctctctcatcgcttgtaa (SEQ ID NO:18);

Cw\*030202 :

atgcgggtcatggcggcccgaaacctcatctgtcgtctcgggagccccggccccgaccgagacctggcccggt  
15 cccactccatgaggatattctacaccgtgtgtcccgcccgcccggggagccccacttcatcgcatgggtta  
cgtggacgacacgcagltcgtgcggttcgacagcgaccccgagctccgagaggggagccgcccggcgccgtgggtg  
gagcaggagggcgaggatattgggaccgggagacacagaagtaacagccaggcacagacagaccagatgagcc  
tgcggaacctgcgcggctactacaaccagagcgaggccgggtcacatccaccagaggatglatggctgcgacgt  
ggggcccgacggcgccctcccgcggtatgaccagtCgacctacgacggcaaggattacatgccccgaacgag  
20 gatctgcgtccctggaccgcccggacacggcggctcagatcaccagcgcaagtgggaggcgcccgtagggcgg  
agcagctgagagccctaccggaggccctgtgcgtggagtggctccgcagataccatgaagaatgggaaggagacgct  
gcagcgcggaacacccaaagacacacgtgaccacacatcccgctcttgacctgaggccacctgaggctcgg  
gccccgggtcttacctgcggagatcacatgacctggcagtggaatgggaggaccacaaactcaggacacTgagc  
ttgtggagaccaggccagcaggagatggaaccttcagaagtgggcagctgtgggtggctctctggagaagagca  
25 gagatcacgtgccatgtgcagcacgaggggtgcccggagccccacacctgagatgggagccgtcttccagccc  
accatccccatcgtagggcatcgtgtctggccggctgtctggctgtcttagctgtcttaggagctgtgggtggctg  
ttgtgatgtgtaggaggaagagctcaggatggaaaaggaggagctgtctcaggctgcgtccagcaacagtgccta



gcccTgggcTtTcTaccTgcggagatcacacTgaccTggcagTgggaTggggaggaccaaacTcaggacacTgagc  
TtgTggagaccaggccagcaggagatggaacctTccagaagTgggcagcTgTggTggTgcctTcTggagaagagca  
gagatcacgTgccatTgTgcagcacgaggggcTgccggagccccTcacctTgagatgggagccgTcTcccagccc  
accatccccatcgTgggcacTgTgTgcTggccTggcTgTccTggcTgTccTgagTgTccTaggagcTgTggTggcTg  
5 TtgTgagTgTgaggaggaagagcTcaggTggaaaaggaggaggagcTgTcTcaggcTgcgTccagcaacagTgcca  
gggcTcTgatgagTcTcTcatcgctTgTaa (SEQ ID NO: 21);

CW#030303 :

[illegible]

Cw\*030401 :

atgcgggctcatggcgccccgaacctcattctcgtcgtctcgggagcccaggccctgaccgagacctgggccggct  
cccatccatgaggtaattctacaccgctgtgtccggcccgccgcggggagccccacttcatcgagtgggctta  
cgtggacgacacgcagttcgtcgggttcgacagcgacgccgcgagttccgagaggggagccgcggggcgccgtgggtg  
20 gaggaggagggcgaggatattgggaccgggagacacagaaglacaaagccaggcacagactgaccgagttagcc  
tgcggaacctgcgcggctactacaaccagagcgaggccgggtctcacatcattccagaggatgtagggctgcgacgt  
ggggcccgacggcgccctctccgcgggtatgaccagtagccctacgacggcaaggattacatcgccctgaacgag  
gattcgcgtctcggaccgcccgggacacggcggtcagatcaccagcgcaagtgaggagcgcccgtagggcgg  
aggcagctgagagcctacctggaggggctgtgcgtggagtggctccgcagatacctgaagaatgggaaggagacgct  
25 gcagcgcgggaaacacccaaagacacacgtgaccaccaatcccgctctcagcaatgaggccaccttaggtgctgg  
gcccagggtcttacctgcggagatcacactgacctggcagtgggatggggaggaccaaactcaggacacTgagc  
ttgtggagaccaggccagcaggagatggaaccttcagaagtgggcagctgtgtgtgggtgacctctggagaagagca

gagatacacgtgccatgtagcagcacgagggcgtccggagccccaccctgagatgggagccgcttcccagccc  
accatcccatcgtgggcatcgttgcgtggcctggcgtgcttggcgtgctttagcgtgctttaggagcgttgggtggcgtg  
tttgtatgtttaggaggaagagctcagggtggaaaaggaggagcgtgctttaggcgtgcttccagcaacagtgccca  
gggctctgatgagctctcctcgtttaa (SEQ ID NO:12);

5 Cw\*030402 :

gtccccactccaagaggtatttctacaccgctgtgtccggccccggccgagggagccccacttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgagggcgccgtgg  
gtggagcaggaggggcccggagtattgggaccgggagacacagaagtaagcgccaggcacagactgaccgagtga  
gcttgcggaacctgctgcggctactacaaccagagcgaggccgggtctcacatcAlccagaggaigtacggctgcga  
10 cgtggggcccgacgggcccctccctccgcggtatgaccagttacgctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccctggaccgccgagacacggcggtcagatcaccagcgcaagtgaggagggcgcccgtagg  
cggagcagctgagagccctaccggagggcctgtgcgtggagtggctccgcagataccigaagaaTgggaaggagac  
gctgcagcgccgg (SEQ ID NO:24);

Cw\*0305 :

15 gtccccactccaagaggtatttctacaccgctgtgtccggccccggccgagggagccccacttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgagggcgccgtgg  
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gcttgcggaacctgctgcggctactacaaccagagcgaggccgggtctcacacctccagagCaigtacggctgcga  
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20 gaggatctgcgtccctggaccgccgagacacggcggtcagatcaccagcgcaagtgaggagggcgcccgtagg  
cggagcagctgagagccctaccggagggcctgtgcgtggagtggctccgcagataccigaagaaTgggaaggagac  
gctgcagcgccgg (SEQ ID NO:25);

Cw\*0306 :

25 gtccccactccaagaggtatttctacaccgctgtgtccggccccggccgagggagccccacttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgagggcgccgtgg  
gtggagcaggaggggcccggagtattgggaccgggagacacagaagtaagcgccaggcacagactgaccgagtga  
gcttgcggaacctgctgcggctactacaaccagagcgaggccgggtctcacatcAlccagaggaigtatggctgcga

cgiggggcccgacgggcgcctccctccgcggtatgTccagiacgcctacgacggcaaggattacatcgccctgaac  
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cggagcagcigagagcctaccggaggccctgigcgtggagtggtccgcagataccigaagaalgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:26);

5 Cw\*0307 :

gcicccactccatgaggtattctacaccgctgigicccggcccgcccggggagccccacttcatcgcatggg  
ctacgtggacgacacgcagttcgtgcgttcgacagcgacgccgcgagtcgagaggggagcccgggcgccgtgg  
giggagcaggaggggcccggagtattgggaccgggagacacagaagtacaagcgccaggcacagacigaccgagtga  
AccigcggaaAcigcgcggtactacaaccagagcgaggccgggtctcacatcAlccagaggatgtatggctgcga  
10 cGiggggcccgacgggcgcctccctccgcggtatgaccagiacgcctacgacggcaaggattacatcgccctgaac  
gaggatcigcgcctcggaccgcccgacacggcggtcagatcaccagcgcaagiggagggcgcccgtagg  
cggagcagcigagagcctaccggaggccctgigcgtggagtggtccgcagataccigaagaalgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:27);

Cw\*0308 :

15 atcggggticalggcgccccgaacctcatctgtcgtctcgggagcccggcccigaccgagacctgggcccgt  
cccactccatgaggtattctacaccgctgigicccggcccgcccggggagccccacttcatcgcatgggctla  
cgtggacgacacgcagttcgtgcgttcgacagcgacgccgcgagtcgagaggggagcccgggcgccgtgggtg  
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tgcggaacctgcgcggtactacaaccagagcgaggccgggtctcacatcAlccagaggatgtatggctgcgacgt  
20 ggggcccgcacgggcgcctccctccgcggtatgaccagiacgcctacgacggcaaggattacatcgccctgaacgag  
gatcigcgcctcggaccgcccgacacggcggtcagatcaccagcgcaagiggagggcgcccgtaggagg  
agcagctgagagcctaccggaggccctgigcgtggagtggtccgcagataccigaagaalgggaaggagacgt  
gcagcgcgcggaacacccaaagacacacgtagccacatcccgctcttgacatgaggccacctgaggigctgg  
gcccgggcttctacctgcggagatcacatgacctggcagtgggatggggaggaccaaactcaggacacTgagc  
25 ttgiggagaccaggccagcaggagatggaacctccagaagtgggcagctgigggtggcttctggagaagagca  
gagatcacgtgccatgtgcagcacgagggcgccggagccccacccigagatgggagccgtctccagccc  
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tttgtatgttaggaggaagagctcag (SEQ ID NO:28);

Cw\*0309 :

gctccacatccatgaggtaattctacaccgctgtgtcccgccccggccgagagccccacttcatcgcagtgagg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgaggcgccgtgg  
5 gtaggagcaggagggccggagtaattggaccgggagacacagaagtaagaagcggcagggcacagactgaccgagtaga  
gccgtcggaacctgcgcggctactacaaccagagcgaggccgggttcacatcAlccagaggatgtatggctgcga  
ccgtggggcccgacggggcgccctcccgcggtatgaccagtagcctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccgtggaccggcgacacggcggttcagatcaccagcgcaagtgaggagggcgcccgtagg  
cggagcagctgagagcctaccgtggaggccTgtgcgtggagtaggtccgcagataccitgaagaatgggaaggagac  
10 gctgcagcgcgagg (SEQ ID NO:29);

Cw\*0310 :

gctccacatccatgaggtaattctacaccgctgtgtcccgccccggccgagagccccacttcatcgcagtgagg  
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gtaggagcaggagggccggagtaattggaccgggagacacagaagtaagaagcggcagggcacagactgaccgagtaga  
15 gccgtcggaatcgtgcggctactacaaccagagcgaggccgggttcacatcAlccagaggatgtatggctgcga  
ccgtggggcccgacggggcgccctcccgcggtatgaccagtagcctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccgtggaccggcgacacggcggttcagatcaccagcgcaagtgaggagggcgcccgtagg  
cggagcagctgagagcctaccgtggaggccTgtgcgtggagtaggtccgcagataccitgaagaatgggaaggagac  
gctgcagcgcgagg (SEQ ID NO:30);

20 Cw\*0311 :

gctccacatccatgaggtaattctacaccgctgtgtcccgccccggccgagagccccgcttcatctcagtgagg  
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gtaggagcaggagggccggagtaattggaccgggagacacagaagtaagaagcggcagggcacagactgaccgagtaga  
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25 cgtggggcccgacggggcgccctcccgcggtatgaccagtagcctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccgtggaccggcgacacggcggttcagatcaccagcgcaagtgaggagggcgcccgtagg  
cggagcagctgagagcctaccgtggaggccTgtgcgtggagtaggtccgcagataccitgaagaatgggaaggagac

gc1gcagcgcgcgg (SEQ ID NO:31);

CW\*0312 :

gctccacatccatgaggatattctacaccgctgtgtcccgcccgccggcgaggccccacatcatcgcatggg  
ctacgtggacgacacgcagttcgtgcggttcgacacgcacgccgcgagttccgagaggggagccgcggcgccgtgg  
5 gtaggagcaggaggggcccggagtaattgggaccgggagacacagaaglacaaagcggccaggcacagactgaccgagtga  
gccitgcggaacctgcgcggctactacaaccagagcgaggccAggtctcacatcatccagaggatglatggctgcga  
cgtggggcccgacgggcgccctccgccgggtatgaccagttAgcctacgacggcaaggattacatcgccctgaac  
gaggatctgcgctcctggaccgccgcggacacggcggctcagatcaccagcgcaagtgggagggcgcccgtagg  
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10 gctgcagcgcgcg(SAQ ID NO:32);

Cw#0313 :

atgcgggtcattggcgcccggaacctcattcctgctgctcctgggagccctggcccagaccagagacctgggcccggct  
cccacttccattgaggtaattctacaccgctgctgctccggcccgcccgcggggagccccacttcatcgcagtagggctta  
cgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccgcgggcgccgtgggtg  
15 gagcaggaggggcccggaglaattgggaccgggagacacagaagtaacaagcgccaggcacagactgaccgagtagacc  
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20 gcagcgcgcggaacacccaaagacacacgtgaccaccatcccgctcttgacctgaggccaccttaggtgctgg  
gcccctgggcttctacctgcggagatcacactgacctggcagtagggaaggaggagacaaactcaggacactgagc  
ttgtggagaccaggccagcaggagatggaacctccagaagtagggcagctgtgtGtggtgccctctggagaagagca  
gagatacacgtgccatgtgcagcacgaggggctgcccggagcccctcaccttagatgggagccgcttcccagccc  
accatccccatcgtgggcatcgtgtcctggcctggctgtccctggctgtccttagctgtccttaggagctgtgtgtggctg  
25 ttgtgatgttaggaggaagagctcaggtaggaaaaggaggaggagctgtctcaggctgcgtccagcaacagtgccca  
gggctctgattgagctctcattcgtttgtaa (SEQ ID NO:33);

Cw\*0314 :



gcTcccacTccaTgaggTatTtTcTaccgcTgTgTcccggccccggccggggagccccacTtTcTcTcagTggg  
cTaccTggacgacacgcagTtTcTgTcggtTcgacagcgacgcccgagTccgagaggggagccgcgggcgccTgg  
gTggagcaggaggggccggagTatTgggaccgggagacacagaagTacaagcgccaggcacagacTgaccgagTga  
gccTgcggaacctTgcggcTactTacaaccagagcgaggccgggTcTcacatTcTccagaggatTgTatTggcTgcga  
5 cgtggggccccgacgggcgccTccTccgcggtatTgaccagTccgcTcTcagcggaaggatTacatTgccccTgaac  
gaggaccTgcgcTccTggaccgcccgacacccggcTcagatTccccagcgcaagTggaggcgggcccgTgCgg  
cggagcagcTgagagccTaccTggagggcacgTgcTggagTggcTccgcagatTaccTgaagaaTgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:34);

Cw\*0315 :

10 gcTcccacTccaTgaggTatTtTcTaccgcTgTgTcccggccccggccggggagccccacTtTcTcTcagTggg  
cTaccTggacgacacgcagTtTcTgTcggtTcgacagcgacgcccgagTccgagaggggagccgcgggcgccTgg  
gTggagcaggaggggccggagTatTgggaccgggagacacagaagTacaagcgccaggcacagacTgaccgagTga  
accTgcggaacctTgcggcTactTacaaccagagcgaggAcgggTcTcacatTccTccagaggatTgTatTggcTgcga  
cgtggggccccgacgggcgccTccTccgcggtatTgaccagTCgcTcTcagcggaaggatTacatTgccccTgaac  
15 gaggatTgcgcTccTggaccgcccgacacggcggcTcagatTccccagcgcaagTgggagcgggcccgTgagg  
cggagcagcTgagagccTaccTggagggccTgtgcTggagTggcTccgcagatTaccTgaagaaTgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:35);

Cw\*0316 :

gcTcccacTccaTgaggTatTtTcTaccgcTgTgTcccggccccggccggggagccccacTtTcTcTcagTggg  
20 cTaccTggacgacacgcagTtTcTgTcggtTcgacagcgacgcccgagTccgagaggggagccgcgggcgccTgg  
gTggagcaggaggggccggagTatTgggaccgggagacacagaagTacaagcgccaggcacagacTgaccgagTga  
gccTgcggaacctTgcggcTactTacaaccagagcgaggccgggTcTcacatTccTccagaggatTgTatTggcTgcga  
cTggggccccgacgggcgccTccTccgcggtatTgaccagTCgcTcTcagcggaaggatTacatTgccccTgaac  
gaggatTgcgcTccTggaccgcccgacacGcggcTcagatTccccagcgcaagTgggagcgggcccgTgagg  
25 cggagcagcTgagagccTaccTggagggcacgTgcTggagTggcTccgcagatTaccTggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:36);

Cw\*040101 :

atgcgggtcatggcggccgaacccatccatgctgctcgggagcccggcccagaccagaccggccggct  
cccactccatgaggatattctccacatccgtgctcggccggccgaggagccccgcttcatcgcatgggct  
cgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgaagaggggagccgcgggagccgtgggtg  
gagcaggagggggccggaglatgggaccgggagacacagaagtaaacgccaggcacaggctgaccgagtgaa  
5 tgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacccctcagaggatgtttggctgcgacct  
ggggccggacgggcgctccctccgcggtataaccagttcgctacgacggcaaggattacatcgccctgaacgag  
gaictgcgtccctggaccgccgaggacacggcggtcagatcacccagcgcaagtgaggagcgcccgtagggcgg  
agcagcggagagcctaccggaggcgacgtgcgtggagtggtccgcagataccggagaacgggaaggagacgct  
gcagcgcgcggaacacccaaagacacacgtgaccacatcccgctctgacctgaggccacccagggctg  
10 gcccgggcttctacccgtcgagatcacatgacctggcagtggaaggaggagacaaactcaggacaccgagc  
ttgtggagaccaggccagcaggagatggaaccttcagaagtgggcagctgtgtgtggcttctggagaagagca  
gagatcacgtgccatgttcagcacgagggcgctccggagccccctacccctgagatggaagccgtctccagccc  
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ttgtgatgtgtaggaggaagagctcaggtggaaaaggaggagctgtctcaggctgcgtccagcaacagtgtcca  
15 gggctctgatgagctctcatcgctgttaa (SEQ ID NO:37);

Cw#040102 :

gtctccactccatgaggatattctccacatccgtgctcggccggccgaggagccccgcttcatcgcatggg  
ctacgtggacgacacAcagttcgtgcggttcgacagcgacgccgcgagtcgaagaggggagccgcgggagccgtgg  
gtggagcaggagggggccggaglatgggaccgggagacacagaagtaaacgccaggcacaggctgaccgagtg  
20 acctgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacccctcagaggatgtttggctgcga  
ccggggccggacgggcgctccctccgcggtataaccagttcgctacgacggcaaggattacatcgccctgaac  
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cggagcagcggagagcctaccggaggcgacgtgcgtggagtggtccgcagataccggagaacgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:38);

25 Cw#0403 :

atgcgggtcatggcggccgaacccatccatgctgctcgggagcccggcccagaccagaccggccggct  
cccactccatgaggatattctacaccgtgtgtccggccagccgcggagagccccActtcatcgcatgggct

cgiggacgacacgcagtcgtgcggttcgacagcgacgccgcgagccaagaggggagccgcccggcgccgtgggtg  
gagcaggagggggccggagtatgggaccgggagacacagaaglaaagcgccaggcacaggcigaccgagtgaaac  
tgcggaaactgcgcggctactacaaccagagcgaggacgggttcacacccctcagaggatgttggctgcgacct  
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5 gaictgcgtctctggaccgccgaggacacggcggtcagatcaccagcgcaaglgggaggcggcccgtagggcgg  
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gcagcgcgcggaacacccaaagacacacgtgacccacatcccgctcttgacctaggggcacccctagggtgctgg  
gcccgggctcttacctgcggagatcacactgacctggcagtgggatggggaggaccacacacaggacaccgagc  
ttgtggagaccaggccagcaggagatggaacctccagaaglgggcagctggtgggtgctcttgagaagagca  
10 gagatcacgtgccatgtcagcacgaggggtgccggagccccctacccctgagalgaagccgtcttccagccc  
accatccccatcgtgggcatcgtgctggccggctgctcggctgcttagctgcttaggagctggtggctg  
ttgtgatgttaggaggaagagctcaggtggaaaaggaggagctgctcagggcggcagcaacagtgccca  
gggctctgatgagctctcactcgctgttaa (SEQ ID NO:39);

Cw\*0404 :

15 gctcccacccaatgaggatatttccacatccgtgctcggccggccgcccgggagccccgttcatcgcatggg  
ctacgtggacgacacgcagtcgtgcggttcgacagcgacgccgcgagccaagaggggagccgcccAgccgtgg  
gtggagcaggagggggccggagtatgggaccgggagacacagaaglaaagcgccaggcacaggcigaccgagtgaa  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggttcacacccctcagaggatgttggctgcga  
cctggggccggacggggccctcccgccgggtataaccagtcgctacgacggcaaggattacatcgccctgaac  
20 gaggatctgcgtctctggaccgccgaggacacggcggtcagatcaccagcgcaaglgggaggcggcccgtaggg  
cggagcagcTgagagcctaccggaggcacgtgcgtggaglggtccgcagataccggagaacgggaaggagac  
gctgcagcgcgg (SEQ ID NO:40);

Cw\*0405 :

gctcccacccaatgaggatatttccacatccgtgctcggccggccgcccgggagccccgttcatcgcatggg  
25 ctacCtggacgacacgcagtcgtgcggttcgacagcgacgccgcgagccaagaggggagccgcccggagccgtgg  
gtggagcaggagggggccggagtatgggaccgggagacacagaaglaaagcgccaggcacaggcigaccgagtgaa  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggttcacacccctcagaggatgttggctgcga

ccctggggccggacggggccctccctccgcggtataaccagtcgcctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccctggaccgcccgggacacggcggtcagatcaccagcgcaagtgaggaggcgcccgctgagg  
cggagcagcggagagccctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:41);

5 Cw\*0406 :

gcctccacatccatgaggatattctacaccgtgtgtcccgcccgagcccgaggagccccacttcatcgagtgagg  
ctacgtggacgacacgcagttcgtgcgttcgacagcgacgcccgagttcaagaggggagcccgggcgccgtgg  
gtggagcaggagggggccggagatctgggaccgggagacacagaagtacaagcgccaggcacaggctgaccgagtga  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacccctcagaggatgtttggctgcga  
10 cctggggccggacggggccctccctccgcggtataaccagtcgcctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccctggaccgcccgggacacggcggtcagatcaccagcgcaagtgaggaggcgcccgctgagg  
cggagcagcTgagagccctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:42);

Cw\*0407 :

15 gcctccacatccatgaggatattctccacatccgtgtcttgcccgcccgaggagccccgcttcatcgagtgagg  
ctacgtggacgacacgcagttcgtgcgttcgacagcgacgcccgagttcaagaggggagcccgggcgccgtgg  
gtggagcaggagggggccggagatctgggaccgggagacacagaagtacaagcgccaggcacagGctgaccgagtga  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacccctcagaggatgtttggctgcga  
ccctggggccggacggggccctccctccgcggtataaccagtcgcctacgacggcaaggattacatcgccctgaac  
20 gaggatctgcgtccctggaccgcccgggacacggcggtcagatcaccagcgcaagtgaggaggcgcccgctgagg  
cggagcagcggagagccctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:43);

Cw\*0408 :

gcctccacatccatgaggatattctccacatccgtgtcttgcccgcccgaggagccccgcttcatcgagtgagg  
25 ctacgtggacgacacgcagttcgtgcgttcgacagcgacgcccgagttcaagaggggagcccgggAgccgtgg  
gtggagcaggagggggccggagatctgggaccgggagacacagaagtacaagcgccaggcacaggctgaccgagtga  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacccctcagaggatgtttggctgcga

ccctggggccggacggggccctccctccgcggtatataaccagttcgctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccctggaccgccgacacggcggtcagatcaccagcgcaagtgaggagcgcccgctgagg  
cggagcagcggagagccctaccctggagggccTgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:44);

5 Cw\*0410 :

gctccacatccatgaggtaattctccacatccgtgctcctggcccgccgaggagccccgcttcatcgagtgagg  
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gtggagcaggagggcgaggatattgggaccgggagacacagaagtaagaagccaggcacagactgaccgagtga  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacctccagaggatgttggctgcga  
10 ccctggggccggacggggccctccctccgcggtatataaccagttcgctacgacggcaaggattacatcgccctgaac  
gaggatctgcgtccctggaccgccgacacggcggtcagatcaccagcgcaagtgaggagcgcccgctgagg  
cggagcagcggagagccctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:45);

Cw\*0501 :

15 atgcgggtcatggcgccccgaacctcatctcgtgctcctgggagccccggccctgaccgagacctgggctgct  
cccactccatgaggtaattctacaccgcccgtgctcccgcccgccgagagccccgcttcatcgagtgaggctta  
cgtggacgacacgcagttcgtgcagttcgacagcgacgcccgagttcaagaggggagccgcccggcgccgtgggtg  
gagcaggagggggccggagtaattgggaccgggagacacagaagtaagaagccaggcacagactgaccgagtgaacc  
tgcggaaActgcgcggctactacaaccagagcgaggccgggtctcacacctccagaggatgtatggctgcgacct  
20 ggggccccgacggcgccctccctccgcggtatataaccagttcgctacgacggcaaggattacatcgccctgaatgag  
gacctgcgtccctggaccgccgagacaAggcggctcagatcaccagcgcaagtgaggagcgcccgctgaggcgg  
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gcagcgcgcggaaacacccaaagacacacgtgacccaccaatcccgctcctgaccaatgaggccacctgaggctcgtgg  
gccccgggcttctacctgcggagatcacactgacctggcagcgggatggcgaggaccaaactcaggacaccgagc  
25 ttgtggagaccaggccagcaggagatggaacctccagaagtgggcagctgtgggtggctcctcctggagaagagca  
gagatcacgtgccatgtgcagcacgaggggtgccagagccccctacctgagatgggGgccaatctccagccc  
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tttgtatgttaggaggaagagctcaggtaggaaaaggaggagctgccttcaggctgcgtccagcaacagtgccca  
gggtcttgatgagtcctcatcgcttgtaa (SEQ ID NO:46);

Cw\*0502 :

gctcccacccaatgaggtatttctacaccgccgtgctccggcccgccggagagccccgttcatcgcatggg  
5 ctagtgagacacacgcagtcgtgcagtcgacagcgacgccgcgagccaagaggggagccgcggcgccgtgg  
gtggagcaggagggcgaggatattgggaccgggagacacagaagtacaagcgccaggcacagacagccagtgat  
accatcggaatcgccggctactacaaccagagcgaggccgggtctcacacctccagaggatgtatggctcgga  
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gaggacctgcgtcttgaccgcccggaacaaggcggtcagatcaccagcgcaagtgaggagggcccgtagg  
10 cggagcagcgagagccatccatggaggcgatgctgctggagtggtcgcgcagatccatggagaacgggaaggagac  
gctgcagcgccgg (SEQ ID NO:47);

Cw\*0503 :

atcggggtcatggcgccccgaacctcatctgctgctcgggagccccggccctgaccgagacctgggctgct  
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15 cgtggacgacacgcagtcgtgcagtcgacagcgacgccgcgagccaagaggggagccgcggcgccgtgggtg  
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gacctgcgtcttgaccgcccggaacaaggcggtcagatcaccagcgcaagtgaggagggcccgtagggcg  
20 agcagcgagagccatccatggaggcgatgctgctggagtggtccgcagatccatggagaacgggaagaagacgt  
gcagcgccggacccccaaagacacatgtgacccaccacccatctctgacatgaggTcaccctgaggtgctgg  
gcccgggtcttacctcgggagatcacatgacctggcagcgggatggcgaggaccaaactcaggacaccgagc  
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gagatcacgtgccatgtgcagcagggggctgccagagccccacccatgagatgggggccaatctccagccc  
25 accatccccatcgtagggcatgctgtctggctggctgtctggctgtcttagctgtcttaggagctgtatggctg  
tttgtatgttaggaggaagagctcaggtaggaaaaggaggagctgccttcaggctgcgtccagcaacagtgccca  
gggtcttgatgagtcctcatcgcttgtaa (SEQ ID NO:48);

Cw\*0504 :

gctccacatccatgaggiaattctacaccgccgtgtcccgcccgccgagagccccgttcatcgcagtggtg  
ctacgtggacgacacgcagttcgtgcagttcgacagcgacgccgcgagttcaagaggggagccgcggtggcgtgg  
gtggagcaggaggggcccggagtaattgggaccgggagacacagaagtaagaagccaggcacagactgaccgagtga  
5 accitcggaatactgcgcggctactacaaccagagcgaggccgggtctcacacccctccagaggatgtaaggctgcga  
ccitggggcccgacggggtccctccgcgggtatgaccagtCcgctacgacggcaaggattacatcgccctgaat  
gaggacctgcgtctctggaccgccgagacaAggctggctcagatcaccagcgcaagtgggagggcgccctgagg  
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gctgcagcgcgcgg (SEQ ID NO:49) ;

10 Cw\*0505 :

gctccacatccatgaggiaattctacaccgccgtgtcccgcccgccgagagccccgttcatcgcagtggtg  
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gtggagcaggaggggcccggagtaattgggaccgggagacacagaagtaagaagccaggcacagactgaccgagtga  
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15 cGtggggcccgacggggtccctccgcgggtataaccagtTcgctacgacggcaaggattacatcgccctgaat  
gaggacctgcgtctctggaccgccgagacaAggctggctcagatcaccagcgcaagtgggagggcgccctgagg  
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gctgcagcgcgcgg (SEQ ID NO:50) ;

Cw\*0506 :

20 gctccacatccatgaggiaattctacaccgccgtgtcccgcccgccgagagccccgttcatcgcagtggtg  
ctacgtggacgacacgcagttcgtgcagttcgacagcgacgccgcgagttcaagaggggagccgcggtggcgtgg  
gtggagcaggaggggcccggagtaattgggaccgggagacacagaagtaagaagccaggcacagactgaccgagtga  
accitcggaatactgcgcggctactacaaccagagcgaggccgggtctcacacccctccagaggatgtaaggctgcga  
ccitggggcccgacggggtccctccgcgggtataaccagtTcgctacgacggcaaggattacatcgccctgaat  
25 gaggacctgcgtctctggaccgccgagacaaggctggctcagatcaccagcgcaagtgggagggcgccctgagg  
cggagcagcggagagccctaccitggagggcacgtgcgtggagtggctccgcagataccitggagaacgggaagaagac  
gctgcagcgcgcgg (SEQ ID NO:51) ;

Cw\*0602 :

atgcgggtcatggcgcgccgaacccatccttgcctgcctcgggagcccggcccagaccagaccgggctgc  
cccacatccatgaggtatctgacaccgccgtgtccggcccgccgcggagagccccgttcaatcagtgggc  
cgtggacgacacgcagtcgtgcggttcgacagcgacccgcgagtcgagaggggagccCggggcggcgtgggtg  
5 gagcaggagggggccggagtattgggaccgggagacacagaagtaacgcccaggcacaggctgaccgagtgaac  
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agcagTggagagcctaccaggagggcacgtgcgtggagtggctccgcagataccaggagaacgggaaggagacgt  
10 gcagcgcggaacacccaaagacacacgtgaccacatcccgctcctgacatgaggccacccaggtgctgg  
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ttgtggagaccaggccagcaggagatggaacctccagaagtgggcagctgtgggtggctcctcaggagaagagca  
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15 ttgtgatgtgtaggaggaagagctcaggtggaaaaggaggagctgtctcaggctgcgtccagcaacagtgccca  
gggtctgtatgagctctcctatcgctgtgtaa (SEQ ID NO:52);

Cw\*0603 :

gtccccacatccatgaggtatcttcaaccgtTgtgtccggcccgccgcggagagccccgttcaatcagtggg  
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20 gtggagcaggagggggccggagtattgggaccgggagacacagaagtaacgcccaggcacaggctgaccgagtga  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggttcacacccatccagtggatgtaaggctgcga  
cctggggcccgacgggcgctcctccgcggtatgaccagtcgcctacgacggcaaggattacatcgccctgaac  
gaggacctgcgtcctggaccgccgcggacacggcggtcagatcacccagcgcaagtgaggagggcccgtaggg  
cggagcagTggagagcctaccaggagggcacgtgcgtggagtggctccgcagataccaggagaacgggaaggagac  
25 gctgcagcgcgcg (SEQ ID NO:53);

Cw\*0604 :

gtccccacatccatgaggtatcttcaaccgtTgtgtccggcccgccgcggagagccccgttcaatcagtggg



ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagtcgagaggggagccCggggcgccgtgg  
gtggagcaggaggggcccggaglatlgggaccgggagacacagaagtaaaagcgccaggcacaggctgaccgagtgga  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacccctccagtggaigtatggctgcga  
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5 gaggacctgcgctccctggaccgcccgggacacggcggtcagatcacccagcgcaagtgggaggcgggcccgtagg  
cggagcagcTgagagcctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgcgcg(SAQ ID NO:54);

Cw\*0605 :

gctccacatccatgagglatlctgacaccgcccgtgtccggcccgcccgaggagccccgcttcatctcagtggg  
10 ctacgtggacgacacgcagttcgtgcagttcgacagcgacgccgcgagtcAagaggggagccCggggcgccgtgg  
gtggagcaggaggggcccggaglatlgggaccgggagacacagaagtaaaagcgccaggcacagacgaccgagtgga  
acctgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacccctccagtggaigtatggctgcga  
ccctggggcccgacggggccctccctccgcggtatgaccagtcgcctacgacggcaaggattacatcgccctgaac  
gaggacctgcgctccctggaccgcccgggacacGgcgggtcagatcacccagcgcaagtgggaggcgggcccgtagg  
15 cggagcagcgagagccctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagac  
gctgcagcgcgcg(SAQ ID NO:55);

Cw\*0606 :

gctccacatccatgagglatlctgacaccgcccgtgtccggcccgcccgaggagccccgcttcatctcagtggg  
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20 gtggagcaggaggggcccggaglatlgggaccgggagacacagaagtaaaagcgccaggcacaggctgaccgagtgga  
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ccctggggcccgacggggccctccctccgcggtatgaccagtcgcctacgacggcaaggattacatcgccctgaac  
gaggacctgcgctccctggaccgcccgggacacggcggtcagatcacccagcgcaagtgggaggcgggcccgtagg  
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25 gctgcagcgcgcggaacacccaaagacacagtgaccacatcccgtctctgaccatgaggccacccctagggtgc  
tggggccctgggtcttaccctgcggagatcacactgacctggcagcgggatggcgaggaccaaactcaggacaccg  
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CW\*0607 :

CW\*0608 :

CW\*0609 :

gc|ccca|tcca|gagga|a|l|cgac|accgc|cg|g|l|cccg|gccgg|ccg|cgg|agag|cccc|gc|t|ca|t|c|ag|tggg  
c|acg|tgg|acg|acgc|ag|t|cg|t|cg|g|l|cg|ac|agc|gac|gcc|cg|ag|t|cc|gag|agggg|agcc|Ccgggc|gcc|t|gg  
25 g|tgg|agc|agg|agggg|ccg|gag|t|a|l|ggg|acc|ggg|gag|ac|aga|agt|aca|agc|gcc|agg|cac|agg|c|t|gac|cg|agt|ga  
acc|t|gcg|gaa|aac|t|gcg|cgg|c|t|ac|t|aca|acc|ag|agc|gagg|ac|ggg|t|c|ac|ac|ccc|t|ccag|t|gga|t|gta|tgg|t|gcga  
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gaggaccigcgcicctggaccgccgacacggcggtcagatcacccagcgcaagtgggaggcgcccgtagg  
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gcigcagcgcgcg(SAQ ID NO:59);

Cw\*070101:

5 atgcgggtcaltggcggcccgagcccicctcctgcgtgcctcgggaggccigggccigaccgagaccigggcctgct  
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10 gggggccgacggcgccicctccgcggtatgaccagtcggcctacgacggcaaggatlatcggccitgaacgag  
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15 itgtggagaccaggccagcaggagatggaacctccagaagtgggcagctgtgtgtgtgctcicggacaagagca  
gagatcacgtgccaltatgcagcagaggggtgcaagagccccitacccitgagctgggagccaltitccagccc  
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ctaltgaltgtaggaggaagagctcaggtaggaaaggaggagctgtcctcaggctgcgtgcagcaacagtgccca  
gggtcctgtatgagctcctcaltActtgtaa(SAQ ID NO:60);

20 Cw\*070102:

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cgtggacgacacgcagticgtgcgttcgacagcgacgccgcgagtcgagaggggagccggcgccgtgggtg  
gagcaggagggggccggaglatigggaccgggagacacagaactacaagcgccaggcacaggctgaccgagtagcc  
25 tgcggaacctgcgggctactacaaccagagcgaggacgggtcicacacccitcagaggatgtatggctgcgacct  
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gcccctgggctctctacccctgcggagatcacactgacctggcagcgggagtgaggaggaccagaccaggacaccgagc  
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5 gagatacacgtgccatacgagcagaggggctgcaagagccccctacccctgagctgggagccaatcttccagccT  
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Cw\*070201 :

10 atgcgggtcatggcgccccgagccccctctctgtctgtctctcgggaggccctggccctgaccgagaccctgggctgtct  
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cgtggagcagacacgcagttcgtgcggttcgacagcgacgccgcgagctccgagaggggagccgcggcgccgtgggtg  
gagcaggagggggccggagtaattgggaccgggagacacagaagtacaagcgccaggcacaggctgaccgagtgagcc  
tgcggaacctgcgcggctactacaaccagagcgaggacgggtctcacacccctcagaggatgtctggctgcgacct  
15 ggggccccgacggcgccctctcccgggtaagaccagctccgcttacgacggcaaggattacatcgccctgaacgag  
gacctgcgtctctggactcgcgcggacaccgcggctcagatcacccagcgcaagtTggaggcgcccgctgcggcgg  
agcagctgagagcctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagacgt  
gcagcgcgcagaacccccaaagacacacgtgacccaccacccccctctctgacatgaggccacccctgaggctgctgg  
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20 ttgtggagaccaggccagcaggagatggaaccttccagaagtgggcagctgtggtggctctctggacaagagca  
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25 Cw\*0703 :

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caggagccagcctcaggaccggcgacaccggcagacacccagcgcaagaggaggcgcccgagc  
5 gggagcagcagagagccaccaggaggatgagcgtggatggctccgcagataccaggagaacgggaaggaga  
cgctgagcgcagacaccccaagacacagtgaccaccacccctctcagcatgaggccaccctgaggtag  
ctggggccaggctctacccagcgagatcacatgaccaggcagcggaaggaggaccagaccaggacacc  
gagctgaggagaccaggccagcaggagatggaacctccagaagaggcagctggggggctctggacaag  
agcagagatcacatgccaatgagcagcagggggcagcaagagccctcaccctgagctgggagccatctccca  
10 gcccacatcccatcatgggcatcgtgctggcctggctgctcggctgctcctagctgctctggagctggtc  
accgctatgatgtagtaggaggaagagctcaggaggaaaaggaggagctgctcagggctgctgagcaacagtg  
cccagggtctgatgagctctcatcacctgttaa (SEQ ID NO:63);  
Cw\*070401 :  
atcggggtcaggcgccccagccctccctcgtgctcctgggaggccaggccagaccagaccaggccctgct  
15 : cccacccaagaggtatctgacaccgctgctccggccggcgaggagcccgctcactcagtagggcta  
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20 gacctgctcctaggaccggcgagacaccggcagacacccagcgcaagtaggaggcgcccgtagggcg  
agcaggaCagagccaccaggaggcacgctggtaggagggctccgcagataccaggagaacgggaagaagagcct  
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ttagggagaccaggccagcaggagatggaacctccagaagaggcagctggggggctctggacaagagca  
25 gagatcacatgccaatgagcagcagggggcagcaagagccctcaccctgagctgggagccatctccagccc  
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ctatgatgtagtaggaggaagagctcaggaggaaaaggaggagctgctcagggctgctgagcaacagtgccca



a t g c g g g i c a t g g c g c c c c g a g c c c t c c t c c t g c t g c t c t c g g g a g g c c t g g c c c t g a c c g a g a c c t g g g c c t g c t  
c c c a c t c c a t g a g g i a t t t c g a c a c c g c c g t g t c c c g g c c c g g c c g g a g a g c c c c g t t c a t c t c a g t g g g c t a  
c g t g g a c g a c a c g c a g t t c g t g c g g t t c g a c a g c g a c c c g c g a g t c c g a g a g g g a g c c g c g g g c c c g t g g g t g  
g a g c a g g a g g g g c c g g a g i a t t g g g a c c g g g a g a c a c a g a a c t a c a a g c g c c a g g c a c a g g c t g a c c g a g t g a g c c  
5 t g c g g a a c c t g c g c g g c t a c t a c a a c c a g a g c g a g g a c g g g t c t c a c a c c c t c c a g a g g a t g t a t g g c t g c g a c c t  
g g g g c c c g a c g g g c g c c t c c t c c g c g g g t a t g a c c a g t c c g c c t a c g a c g g c a a g g a t t a c a t c g c c c t g a a c g a g  
g a c c t g c g c t c c t g g a c c g c c g g a c a c c g c g g t c a g a t c a c c c a g c g c a a g t t g g a g g c g g c c c g t g c g g c g g  
a g c a g c t g a g a g c c t a c c t g g a g g g c a c g t g c g t g g a g t g g c t c c g c a g a t a c c t g g a g a a c g g g a a g g a g a c g c t  
g c a g c g c g c a g a a c c c c a a g a c a c a c g t g a c c c a c c a c c c c t c t c t g a c c a t g a g g c c a c c c t g a g g t g c t g g  
10 g c c c t g g g c t t c t a c c c t g c g g a g a t c a c a c t g a c c t g g c a g c g g g a t g g g g a g g a c c a g a c c c a g g a c a c c g a g c  
t t g t g g a g a c c a g g c c a g c a g g a g a t g g a a c c t t c c a g a a g t g g g c a g c t g t g g t g g t g c c t t c t g g a c a a g a g c a  
g a g a t a c a c g t g c c a t a t g c a g c a c g a g g g g c t g c a a g a g c c c c t c a c c c t g a g c t g g g a g c c a t c t t c c c a g c c c  
a c c a t c c c c a t c a t g g g c a t c g t t g c t g g c c t g g c t g t c c t g g t t g t c c t a g c t g t c c t t g g a g c t g t g g t c a c c g  
c t a A g a t g t g t a g g a g a a g a g c t c a g g t g g a a a g g a g g g a g c t g c t c t c a g g t t g c g t g c a g c a a c a g t g c c c a  
15 g g g c t c t g a t g a g t c t c t c a t c a c t t g t a a (SEQ ID NO: 67);

Cw\*0707 :

g c t c c c a c t c c a t g a g g i a t t t c g a c a c c g c c g t g t c c c g g c c c g g c c g g a g a g c c c c g t t c a t c t c a g t g g g  
c t a c g t g g a c g a c a c g c a g t t c g t g c g g t t c g a c a g c g a c c c g c g a g t c c g a g a g g g a g c c g c g g g c c c g t g g  
g t g g a g c a g g a g g g g c c g g a g i a t t g g g a c c g g g a g a c a c a g a a c t a c a a g c g c c a g g c a c a g g c t g a c c g a g t g a  
20 a c c t g c g g a a A c t g c g c g g c t a c t a c a a c c a g a g c g a g g c c g g g t c t c a c a c c c t c c a g a g g a t g t A t g g c t g c g a  
c c t g g g g c c c g a c g g g c g c c t c c t c c g c g g g t a t g a c c a g t c c g c c t a c g a c g g c a a g g a t t a c a t c g c c c t g a a c  
g a g g a c c t g c g c t c c t g g a c c g c c g g a c a c c g c g g t c a g a t c a c c a g c g c a a g t t g g a g g c g g c c c g t g c g g  
c g g a g c a g c t g a g a g c c t a c c t g g a g g g c a c g t g c g t g g a g t g g c t c c g c a g a t a c c t g g a g a a c g g g a a g g a g a c  
g c t g c a g c g c g c A g (SEQ ID NO: 68);

25 Cw\*0708 :

g c t c c c a c t c c a t g a g g i a t t t c g a c a c c g c c g t g t c c c g g c c c g g c c g g a g a g c c c c g t t c a t c t c a g t g g g  
c t a c g t g g a c g a c a c g c a g t t c g t g c g g t t c g a c a g c g a c c c g c g a g t c c g a g a g g g a g c c g c g g g c c c g t g g

gtggagcaggagggccggaglatl tggaccgggagacacagaagtacaagcgccaggcacaggctgaccgagiga  
gccitgcggaacctgcgcggtactacaaccagagcgaggacgggtctcacacctccagaggatgtTggctgcga  
ccitggggcccgacgggcgccctcccgcggtatgaccagtcgacctacgacggcaaggattacatcgccctgaac  
gaggacctgcgtccitggaccgcccggacaccgcggtcagatcaccagcgcaagtTggaggcgggccgtgcgg  
5 cggagcagctgagagccctaccitggagggcacgtgcgtggagtggctccgcagataccitggagaacgggaaggagac  
gctgcagcgcgAg (SEQ ID NO:69);

Cw\*0709 :

gctcccactccatgagglatl tgcacaccgcccgtgtccggccccggccggagagccccgttcaatcagitggg  
ctacgtggacgacacgcagttcgtgcggttgcacagcgacgccgcgagtcgagaggggagccgcgggcgccgtgg  
10 gtggagcaggagggccggaglatl tggaccgggagacacagaactacaagcgccaggcacaggctgaccgagiga  
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15 gctgcagcgcgAg (SEQ ID NO:70);

Cw\*0710 :

gctcccactccatgagglatl tgcacaccgcccgtgtccggccccggccggagagccccgttcaatcagitggg  
ctacgtggacgacacgcagttcgtgcggttgcacagcgacgccgcgagtcgagaggggagccgcgggcgccgtgg  
gtggagcaggagggccggaglatl tggaccgggagacacagaagtacaagcgccaggcacaggctgaccgagiga  
20 gccitgcggaacctgcgcggtactacaaccagagcgaggacgggtctcacatcAtccagaggatgtCtggctgcga  
ccitggggcccgacgggcgccctcccgcggtatgaccagtcgacctacgacggcaaggattacatcgccctgaac  
gaggacctgcgtccitggaccgcccggacaccgcggtcagatcaccagcgcaagtTggaggcgggccgtgcgg  
cggagcagctgagagccctaccitggagggcacgtgcgtggagtggctccgcagataccitggagaacgggaaggagac  
gctgcagcgcgAg (SEQ ID NO:71);

25 Cw\*0711 :

atgcgggtcatggcgccccgagcccctctctgtcgtctcgggaggccitggcccitaccgagacctgggctgtct  
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cgaggacacgcagctcgcggttcgacagcgacgcccgcagtcgagaggggagccccgggcgcctgggttgagcaggaggggcccggagtaaggaccgggagacacagaagtaaacgccaggcacaggctgaccgagtgagcc

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10accatccccatcatgggcatcgtgctggccggctgtccggctgttccctagctgtccctggagctgtggctaccgctatgatgtgtaggaggaagagctcaggtggaaaaggaggaggagctgctctcaggctgcgtGcagcaacagtgccca

gggctctgatgagctctctcatcgcttgtaa (SEQ ID NO:72);

CW#0712 :

15 gctccac tccatgagg tatttcgac accgcggtg tcccg gcccggccg cgagagccccgc t tca tctcag tggg  
ctacgtggacgacacgcag t tctg tgcggt tgcac agcgacgccgcgag t ccgag aggggagccccgggcgccgtgg  
gtggagcaggagggggccggag t attggg accgggagacacagaagtaca agcgccaggcacaggctg accgag tga  
gcctgcggaacctgcgcggctactaca accagagcgaggacgggtctcacacct tccagaggatgtatggctgcga  
cc tggggcccgcaggcgcc tcttccgcgggtatgaccag t tgcctacgacggcaaggat t acatcgccctgaac  
20 gaggacctgcgctcc tggaccgccgaggacaccgcggctcagatcaccagcgcaagtgggaggcgggcccg tgcgg  
cggagcaggaCagagcctacc tggagggcacgtgcgtggagtggctccgcagat acc tggagaacgggaagaagac  
gctgcagcgcgcg (SEQ ID NO:73) ;

CW\*0713 :

gctccac tcca t gaggta t t t c g a c a c c g c c g t g t c c c g g c c c g g c c g g a g a g c c c c g c t t c a t c t c a g t g g g  
25 c t a c g t g g a c g a c a c g c a g t t c g t g c g g t t c g a c a g c g a c g c c g c g a g t c c g a g a g g g g a g c c g c g g g c g c c g t g g  
g t g g a g c a g g a g g g g c c g g a g t a t t g g g a c c g g g a g a c a c a g a a g t a c a a g c g c c a g g c a c a g g c t g a c c g a g t g a  
g c c t g c g g a a c c t g c g c g g c t a c t a c a a c c a g a g c g a g g a c g g g t c t c a c a c c t c c a g a g g a t g t C t g g c t g c g a

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gctgcagcgcgAg (SEQ ID NO:74);

5 Cw\*0714 :

gctcccatccatgaggtaattcgacaccgccgtgtcccgccccggccgagagccccgcttcatctcagtggg  
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gtggagcaggagggccggagtaattgggaccgggagacacagaagtaagaagccaggcacaggctgaccgagtg  
gccctgcggaacctgcgcggtactacaaccagagcgaggacgggtctcacacccctcagaggatgtacggctgcga

10 ccctggggcccgacgggcgcctccctccgcggtatgaccagctcgccctacgacggcaaggattacatcgccctgaac  
gaggacctgcgctccctggaccgccgacacccgaggcctcagatcaccagcgcaagTggaggcgggcccgctgcgg  
cggagcagctgagagcctaccctggagggcacgtgcgtggagtggctccgcagataccctggagaacgggaaggagac  
gctgcagcgAg (SEQ ID NO:75);

Cw\*0715 :

15 gctcccatccatgaggtaattcgacaccgccgtgtcccgccccggccgagagccccgcttcatctcagtggg  
ctacgtggacgacacgcagctcgtgcggctcgacagcgacgccgagctccgagaggggagccgccccgctgg  
gtggagcaggagggccggagtaattgggaccgggagacacagaagtaagaagccaggcacaggctgaccgagtg  
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20 ccctggggcccgacgggcgcctccctccgcggtatgaccagctcgccctacgacggcaaggattacatcgccctgaac  
gaggacctgcgctccctggaccgccgacacccgaggcctcagatcaccagcgcaagTggaggcgggcccgctgcgg  
cggagcagctgagagcctaccctggagggcAgctgcgtggagtggctccgcagataccctggagaacgggaaggagac  
gctgcagcgcgAg (SEQ ID NO:76);

Cw\*0716 :

25 gctcccatccatgaggtaattcgacaccgccgtgtcccgccccggccgagagccccgcttcatctcagtggg  
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gtggagcaggagggccggagtaattgggaccgggagacacagaaCtaagaagccaggcacaggctgaccgagtg  
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cc|ggggcccgacgggcgcc|cc|ccg|ggg|ta|gaccag|Ccgcc|acgacggcaaggat|acat|cgccc|gaac  
gaggacc|gcgc|cc|ggaccg|ccg|ggacacc|cg|ggc|caga|caccagcgcaag|Tggaggcggcccg|gcgg  
cggagcagc|gagagcc|acc|ggagggc|cacg|gcg|ggag|ggc|ccgc|caga|acc|ggagaacgggaaggagac  
gc|gcagcgcgcAg (SEQ ID NO:77) ;

5 Cw\*0717 :

gctcccac|ccat|gagg|at|tc|gacaccg|ccg|gt|cc|ggcccg|ggccg|ggagagccccg|t|ca|tc|cag|ggg  
c|acg|ggacgacacgcag|tcg|gcgg|tc|gacagcgacg|ccg|cgag|ccgagaggggagccg|gggcg|ccg|tgg  
g|ggagcaggagggg|ccg|gag|ta|tgggacc|gggagacacagaag|acaagcgccaggcacaggc|gaccgag|ga  
gcc|gcggaacc|gcgcggc|ta|acaaccagagcgaggacggg|tc|cacaccc|ccagaggat|gt|C|ggc|tcgca

10 cc|ggggcccgacgggcgcc|cc|ccg|ggg|ta|gaccag|ccg|cc|acgacggcaaggat|acat|cgccc|gaac  
gaggacc|gcgc|cc|ggaccg|ccg|ggacacc|cg|ggc|caga|caccagcgcaag|gggaggcggcccg|gcgg  
cggagcagc|gagagcc|acc|ggagggc|cacg|gcg|ggag|ggc|ccgc|caga|acc|ggagaacgggaaggagac  
gc|gcagcgcgcagaacccccaaagacacacg|gaccaccaccccc|tc|tc|gacca|gaggccaccc|gagg|gc  
tgggccc|gggc|tc|tacc|gcggaga|cacac|gacc|ggcagcggga|ggggaggaccagaccaggaacccg  
15 agc|t|g|ggagaccaggccagcaggaga|ggaacc|tc|cagaag|gggcagc|t|g|gt|gt|gcc|tc|tggacaaga  
gcagagatacacg|gcc|at|gcagcagcagggggc|gcaagagcccc|caccc|tagC|ggg (SEQ ID

NO:78) ;

Cw\*0718 :

at|gcggg|ca|ggc|ccccg|agccc|tc|tc|gc|tgc|tc|cgggaggcc|ggccc|gaccgagacc|gggccc|gct  
20 cccac|ccat|gagg|at|tc|gacaccg|ccg|gt|cc|ggcccg|ggccg|ggagagccccg|t|ca|tc|cag|ggg|ta  
cg|ggacgacacgcag|tcg|gcgg|tc|gacagcgacg|ccg|cgag|ccgagaggggagccg|gggcg|ccg|tgggtg  
gagcaggagggg|ccg|gag|ta|tgggacc|gggagacacagaac|acaagcgccaggcacaggc|gaccgag|tagcc  
tgcggaacc|gcgcggc|ta|acaaccagagcgaggacggg|tc|cacaccc|ccagaggat|gt|a|ggc|tcgaccc|

ggggcccgacgggcgcc|cc|ccg|ggg|ta|gaccag|ccg|cc|acgacggcaaggat|acat|cgccc|gaacgag  
25 gacc|gcgc|cc|ggaccg|ccg|ggacacc|cg|ggc|caga|caccagcgcaag|gggaggcggcccg|gcggcgg  
agcagc|gagagcc|acc|ggagggc|cacg|gcg|ggag|ggc|ccgc|caga|acc|ggagaacgggaaggagacgc|  
gcagcgcgcagaacccccaaagacacacg|gaccaccaccccc|tc|tc|gacca|gaggccaccc|gagg|gt|tgg



cc tggggcccgacggcgcc tcc tccgggg taa acc agt Tcgcc t acgacggcaaggat taca tgc ccc tgaat  
gaggacct tgcgc tcc tggaccgcccgggacacggcggtcagat caccagcgcaag tgggaggcgcccg tAcgg  
cggagcagctgagagcc tacc tggagggcacgt tgc tggag tggc tccgcagat acc tggagaacgggaagaagac  
gctgcagcgcgcg (SEQ ID NO:81);

5 Cw\*0802 :

a tgcgggtcatggcgccccgaaccc tca tcc tgc tgc tcc tgggagccc tggccc taccgagacctgggccc tgc t  
cccactcca tgggtat t tcc taccgccgt tgc tccggccggcgcgagagccccgc t tca tgcag tgggt a  
cgtggacgacacgcag t tgc tgcag t tgcacagcgacgcccgag tccaagaggggagccgcggcgccgtgggtg  
gagcaggagggggccggag t at tgggaccgggagacacagaagtacaagcgccaggcacagactgaccgag t gaggc  
10 tgcggaacctgcgcggctactacaaccagagcgaggccgggt t cca cccc tccagaggatgtatggct tgcgacct  
ggggcccgacggcgcc tcc tccgcggt taa acc agt tgc c t acgacggcaaggat taca tgc ccc tgaatgag  
gacctgcgc tcc tggaccgcccgggacaAgcggtcagat caccagcgcaag tgggaggcgcccg t gaggcgg  
agcagcgagagcc tacc tggagggcacgt tgc tggag tggc tccgcagat acc tggagaacgggaagaagacgc t  
gcagcgcgggaaacacccaaagacacacgt t gaccacccatcccg t c t t gacca t gaggccaccc t gagg tgc tgg  
15 gccc tgggt t t t t acc tgcggagat c a c a c t g a c c t g g c a g c g g g a t g g c g a g g a c c a a c t c a g g a c c c g a g c  
t t g t g g a g a c c a g g c c a g c a g g a t g g a a c c t c c a g a a g t g g g c a g c t g t g g t g g t c c t t c t g g a g a a g a g c a  
gagat acag t gcca t g t g c a g c a c g a g g g g c t g c c a g a g c c c c t c a c c c t g a g a t g g g G g c c a l c t t c c c a g c c c  
accatccccatcg tgggca t c g t t g c t g g c c t g g c t g t c c t g g c t g t c c t a g c t g t c c t a g g a g c t g t g a t g g c t g  
t t g t a t g t g t a g g a g a a g a g c t c a g g t g g a a a g g a g g g a g c t g c t c t c a g g c t g c g t c c a g c a a c a g t g c c c a  
20 gggctctg atgag t c t c a t c g c t t g t a a (SEQ ID NO:82);

Cw\*0803 :

a tgcgggtcatggcgccccgaaccc tca tcc tgc tgc tcc tgggagccc tggccc taccgagacctgggccc tgc t  
cccactcca tgggtat t t c t a c c c g c c g t g t c c c g g c c g g c g c g g a g a g c c c c g c t t c a t c g c a g t g g g t a  
cgtggacgacacgcag t tgc tgcag t tgcacagcgacgcccgag tccaagaggggagccgcggcgccgtgggtg  
25 gagcaggagggggccggag t at tgggaccgggagacacagaagtacaagcgccaggcacagactgaccgag t gaggc  
tgcggaacctgcgcggctactacaaccagagcgaggccgggt t cca cccc tccagaggatgtatggct tgcgacct  
ggggcccgacggcgcc tcc tccgcggt taa acc agt tgc c t acgacggcaaggat taca tgc ccc tgaatgag

gacctgcgtccctggaccgccgacacggcggctcagatcaccagcgcaagtgaggaggcgcccgctacggcgg  
agcagctgagagcctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacAggaagaagacgt  
gcagcgcgcggaacacccaaagacacacgtgaccacccatcccgctcttgacctgaggccacccctgaggctgctgg  
gcccctgggtctctacccctgcggagatcacactgacctggcagcgggagggcgaggaccacaaactcaggacaccgagc  
5 tttgggagaccaggccagcaggagatggaaccttccagaagtgggcagctgtgggtggctctctggagaagagca  
gagatcacgtgccatgtgcagcacgaggggtgcccagagccccctacccctgagatgggggcccctcttcccagccc  
accatccccatcgtgggcatcgtgtcctggcctggcgtgtccctggcgtgtccctagctgtctttaggagctgtgttggcgtg  
ttgtgatgtgtaggaggaagagctcaggctggaaaaggaggagcgtgtctcaggctgcgtccagcaacagtgtccca  
gggctctgatgagctctctcatcgttgttaa (SEQ ID NO:83);

10 Cw\*0804 :

gtctccacatccatgaggatattctacaccgccgtgtccggcccgccgagagccccgcttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcagttcgacagcgacgccgagctccaagaggggagccgcccggcgccgtgg  
gtggagcaggaggggcccggagtattgggaccgggagacacagaagtacaagcgccaggcacagactgaccgagtga  
gcccgtcggaacctgtcgccgtctactacaaccagagcgaggccgggtctcacacccctccagaggatgtatggctgcga  
15 cctggggcccgacggcgccctctccgcggtataaccagttcgcttacgacggcaaggattacatcggcctgaat  
gaggacctgcgtctctggaccgccgaggacaAggcggctcagatcaccagcgcaagtgaggaggcgcccgctgagg  
cggagcagcTgagagcctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaagAagac  
gtgtcagcgcgagg (SEQ ID NO:84);

Cw\*0805 :

20 gtctccacatccatgaggatattctacaccgccgtgtccggcccgccgagagccccgcttcatcgcagtggg  
ctacgtggacgacacgcagttcgtgcagttcgacagcgacgccgagctccaagaggggagccgcccggcgccgtgg  
gtggagcaggaggggcccggagtattgggaccgggagacacagaagtacaagcgccaggcacagGctgaccgagtga  
gcccgtcggaacctgtcgccgtctactacaaccagagcgaggccgggtctcacacccctccagaggatgtatggctgcga  
ccctggggcccgacggcgccctctccgcggtataaccagttcgcttacgacggcaaggattacatcggcctgaat  
25 gaggacctgcgtctctggaccgccgaggacaAggcggctcagatcaccagcgcaagtgaggaggcgcccgctgagg  
cggagcagcgagagcctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaagAagac  
gtgtcagcgcgagg (SEQ ID NO:85);

Cw\*0806 :

gctccac tccatgaggatattctacaccgccgtg tccggcccgccgagagccccgc t tca tgcag tggg  
ctacgtggacgacacgcag t tgc tgcag t tgcacagcgacgccgcgag tccaagaggggagccgcgggcgcctgg  
gtggagcaggaggggcccggag t tgggaccgggagacacagaagtacaagcgccaggcacagac t gaccgag tga  
5 gcc tgcggaacct tgcgcggctactacaaccagagcgaggccgggt t tca cacc tccagagga t g t tggc tgcga  
cc tggggcccgcgggcgcctcc tccgcgggtataaccag t tgcctacgacggcaaggat taca tgcct tgaat  
gaggacct tgcgt tcc tggaccgccgcggacacggcggt t caga t caccagcgcaagt tgggagcgccccgt t acgg  
cggagcagc t gtagcc t acc tggagggcGcgtgcgtggag tggc tccgcagat acc tggagaacAggaagaagac  
gctgcagcgcgcg (SEQ ID NO:86);

10 Cw\*0807 :

gctccac tccatgaggatattctacaccgccgtg tccggcccgccgagagccccgc t tca tgcag tggg  
ctacgtggacgacacgcag t tgc tgcag t tgcacagcgacgccgcgag tccaagaggggagccgcgggcgcctgg  
gtggagcaggaggggcccggag t tgggaccgggagacacagaagtacaagcgccaggcacagac t gaccgag tga  
gct tgcggaacct tgcgcggctactacaaccagagcgaggccgggt t tca cacc tccagagga t g t tggc tgcga  
15 cc tggggcccgcgggcgcctcc tccgcgggtataaccag t tgcctacgacggcaaggat taca tgcct tgaat  
gaggacct tgcgt tcc tggaccgccgcggacaAggcggc t caga t caccagcgcaagt tggagcgccccgt t gagg  
cggagcagcgagagcc t acc tggagggcacgtgcgtggag tggc tccgcagat acc tggagaacgggaagAagac  
gctgcagcgcgcg (SEQ ID NO:87);

Cw\*0808 :

20 gctccac tccatgaggatattctacaccgccgtg tccggcccgccgagagccccgc t tca tgcag tggg  
ctacgtggacgacacgcag t tgc tgcag t tgcacagcgacgccgcgag tccaagaggggagccgcgggcgcctgg  
gtggagcaggaggggcccggag t tgggaccgggagacacagaagtacaagcgccaggcacagac t gaccgag tga  
gcc tgcggaacct tgcgcggctactacaaccagagcgaggccgggt t tca cacc tccagagCat g t tggc tgcga  
cc tggggcccgcgggcgcctcc tccgcgggtataaccag t tgcctacgacggcaaggat taca tgcct tgaat  
25 gaggacct tgcgt tcc tggaccgccgcggacacggcggt t caga t caccagcgcaagt tgggagcgccccgt t acgg  
cggagcagc t gtagcc t acc tggagggcacgtgcgtggag tggc tccgcagat acc tggagaacgggaagAagac  
gctgcagcgcgcg (SEQ ID NO:88);

Cw\*0809 :

a t g c g g g t c a t g g c g c c c g a a c c c t c a c c c t g c t g c t c t c g g g a g c c c t g g c c c t g a c c g a g a c c t g g g c c t g c t  
c c c a c t c c a t g a g g t a t t t c t a c a c c g c c g t g t c c c g g c c c g g c c g g a g a g c c c c g t t c a t c g c a g t g g g c t a  
c g t g g a c g a c a c g c a g t t c g t g c a g t t c g a c a g c g a c g c c g c g a g t c c a a g a g g g g a g c c g c g g g c g c c g t g g g t g  
5 g a g c a g g a g g g g c c g g a g t a t t g g g a c c g g g a g a c a c a g a a g t a c a a g c g c c a g g c a c a g a c t g a c c g a g t g a g c c  
t g c g g a a c c t g c g c g g c t a c t a c a a c c a g a g c g a g g c c g g g t c t c a c a c c c t c c a g a g g a t g t a t g g c t g c g a c c t  
g g g g c c c g a c g g g c g c c t c c t c c g c g g g t a t g a c c a g t c c g c c t a c g a c g g c a a g g a t t a c a t c g c c c t g a a t g a g  
g a c c t g c g c t c c t g g a c c g c c g g a c a c g g c g g c t c a g a t c a c c c a g c g a a g t g g g a g g c g g c c c g t a c g g c g g  
a g c a g c t g a g a g c c t a c c t g g a g g g c a c g t g c g t g g a g t g g c t c c g c a g a t a c c t g g a g a a c g g g G a g a a g a c g c t  
10 g c a g c g c g c g g a a c a c c c a a g a c a c a c g t g a c c c a c c a t c c c g t c t c t g a c c a t g a g g c c a c c c t g a g g t g c t g g  
g c c (SEQ ID NO:89);

Cw\*120201 :

a t g c g g g t c a t g g c g c c c g a a c c c t c a t c c t g c t g c t c t c g g g a g c c c t g g c c c t g a c c g a g a c c t g g g c c t g c t  
c c c a c t c c a t g a g g t a t t t c t a c a c c g c c g t g t c c c g g c c c g g c c g g a g a g c c c c g t t c a t c g c a g t g g g c t a  
15 c g t g g a c g a c a c g c a g t t c g t g c g g t t c g a c a g c g a c g c c g c g a g t c c a a g a g g g g a g c c g c g g g c g c c g t g g g t g  
g a g c a g g a g g g g c c g g a g t a t t g g g a c c g g g a g a c a c a g a a g t a c a a g c g c c a g g c a c a g g c t g a c c g a g t g a g c c  
t g c g g a a c c t g c g c g g c t a c t a c a a c c a g a g c g a g g c c g g g t c t c a c a c c c t c c a g a g g a t g t a C g g c t g c g a c c t  
g g g g c c c g a c g g g c g c c t c c t c c g c g g g t a t g a c c a g t c c g c c t a c g a c g g c a a g g a t t a c a t c g c c c t g a a c g a g  
g a c c t g c g c t c c t g g a c c g t g c g g a c a c g g c g g c t c a g a t c a c c c a g c g a a g t g g g a g g c g g c c c g t g a g g c g g  
20 a g c a g t g g a g a g c c t a c c t g g a g g g c a c g t g c g t g g a g t g g c t c c g c a g a t a c c t g g a g a a c g g g a a g g a g a c g c t  
g c a g c g c g c g g a a c a c c c a a a g a c a c a c g t g a c c c a c c a t c c c g t c t c t g a c c a t g a g g c c a c c c t g a g g t g c t g g  
g c c c t g g g c t t c t a c c c t g c g g a g a t c a c a c t g a c c t g g c a g c g g g a t g g c g a g g a c c a a a c t c a g g a c a c c g a g c  
t t g t g g a g a c c a g g c c a g c a g g a g a t g g a a c c t c c a g a a g t g g g c a g c t g t g g t g g t g c c t t c t g g a g a a g a g c a  
g a g a t a c a c g t g c c a t g t g c a g c a c g a g g g g c t g c c g g a g c c c c t a c c c t g a g a t g g g a g c c a t c t c c c a g c c c  
25 a c c a t c c c c a t c g t g g g c a t c g t g c t g g c c t g g c t g c c t g g c t g c c t a g c t g c c t a g g a g c t g t g A t g g c t g  
t t g t g a t g t g t a g g a g a a g a g c t c a g g t g g a a a a g g a g g g a g c t g c t c t c a g g c t g c g t c c a g c a a c a g t g c c c a  
g g g c t c t g a t g a g t c t c t a t c g c t t g t a a (SEQ ID NO:90);



Cw#120202 :

aigcgggicalggcggccgaacccicalccigcigciccgaggagccigggccigaccgagaccigggccigc  
cccaciccagagglaattlacaccgcccigicccggccggcgaggagccccgcitcagcagigggc  
cgtggagacacgcagtcgtgcggtcgacagcgacccgcgagccaagaggggagccgcccggcgccgtgggtg  
5 gagcaggaggggcccggaglaigggaccgggagacacagaaglaaagcggcaggcacaggcigaccgagigagcc  
igcggaaaccigcgcggcctacaaaccagagcgaggccgggtcacaccccccagaggatglaCggcigcgacc  
ggggcccgacggcgccctcccgggatgaccagtcggcctacgacggcaaggatlaacatgcccigaacgag  
gaccigcgcctcggaccgcTgcggacacggcggtcagatcaccagcgcaagigggaggcgcccgigaggcgg  
agcagtgagagccctaccigggaggcacgigcgtggagtggtccgcagataccigggagaacgggaaggagacgct  
10 gcagcgcggaacacccaaagacacacgigaccacccatcccgctcctgacatgaggccacccigaggctgctgg  
gcccigggctctacccigcggagatcacacigacciggcagcgggatggcgaggaccaaactcaggacaccgagc  
ttigggagaccaggccagcaggagatggaacctccagaagigggcagctgtgggtggctctcggagaagagca  
gagatcacgtgccatgtgcagcacgagggcggtgccAgagccccctacccigagatgggagccaactccccagccc  
accatccccatcgtgggcatcgtgctggcciggtgtcctggctgtcctagctgtcctaggagctgtgAtggctg  
15 ttgtgattgttaggaggaagagctcaggigggaaaaggaggagctgcctcaggcigcgtccagcaacagtgccca  
gggctctgatgagctctcctcgttgtaa (SEQ ID NO:91);

Cw#120203 :

gcicccaciccagagglaattlacaccgcccigicccggccggcgaggagccccgcitcagcagiggg  
ctacgtggagacacgcagtcgtgcggtcgacagcgacccgcgagccaagaggggagccgcccggcgccgtgg  
20 gaggagcaggaggggcccggaglaigggaccgggagacacagaaglaaagcggcaggcacaggcigaccgagiga  
gccigcggaaaccigcgcggctacaaaccagagcgaggccgggtcacaccccccagaggatgtAtggctgcga  
cctggggcccgacggcgccctcccgggatgaccagtcggcctacgacggcaaggatlaacatgcccigaac  
gaggaccigcgcctcggaccgcTgcggacacggcggtcagatcaccagcgcaagigggaggcgcccgigagg  
cggagcaglggagagccctaccigggaggcacgigcgtggagtggtccgcagataccigggagaacgggaaggagac  
25 gctgcagcgcgcg (SEQ ID NO:92);

Cw#120301 :

aigcgggicalggcggccgaacccicalccigcigciccgaggagccigggccigaccgagaccigggccigc

cccacitccatgagglatttctacaccgccgtgtccggcccgccggagagccccgttcaatcgagtggtta  
cgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagltcaagaggggagccgcccgcgcgtgggtg  
gagcaggaggggcccggaglatgggaccgggagacacagaagtaagcgccaggcacagGcagaccagtgagcc  
tgcggaacctgcgcggctactacaaccagagcgaggccgggtctcacacctccagtggaatglatggctgcgacct  
5 ggggcccgcggcgccctcccgcggtatgaccagtcgcctacgacggcaaggattacatcgccctgaacgag  
gacctgcgtccctggacTgccgcggacacggcggtcagatcaccagcgcaagtgaggagcgcccttgaggcgg  
agcagtgagagccctaccitggagggcacgtgcgtggagtggtccgcagataccitggagaacgggaaggagacgct  
gcagcgcgcggaacacccaaagacacacgtgaccacccatcccgctctcagaccatgaggccaccttgaggctgc  
ggccitgggtctctacccitcgggagatcacactgacctggcagcgggatggcgaggaccaaactcaggacaccgagc  
10 ttgaggagaccaggccagcaggagatggaaccttccagaagtgggcagctgtgggtgggtgctcttgagaagagca  
gagatcacgtgccatgltgcagcacgaggggtgcccagagccccctacccitgagatgggagccatcttccagccc  
accatcccatcgtgggcatcgtgtcgtggctggctgtccitggctgtccitaggctgtgtatggctgt  
ttgtgatgtgtaggaggaagagctcaggtggaaaaggaggagctgtctcaggctgcgtccagcaacagtgccca  
gggctctgtatgagctctctcatcgctgttaa (SEQ ID NO:93);

15 Cw#120302 :

gtctccacitccatgagglatttctacaccgccgtgtccggcccgccggagagccccgttcaatcgagtggtg  
ctacgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagltcaagaggggagccgcccgcgcgtgg  
gtggagcaggagggcccggaglatgggaccgggagacacagaagtaagcgccaggcacaggctgaccagtgatga  
ggctgcggaacctgcgcggctactacaaccagagcgaggccgggtctcacacctccagtggaatglatggctgcga  
20 ccitggggcccgcggcgccctcccgcggtatgaccagtcgcctacgacggcaaggattacatcgccctgaac  
gaggacctgcgtccctggaccgcGcgggacacggcggtcagatcaccagcgcaagtgaggagcgcccttgagg  
cggagcagTggagagccctaccitggagggcacgtgcgtggagtggtccgcagataccitggagaacgggaaggagac  
gctgcagcgcgcg (SEQ ID NO:94);

Cw#120401 :

25 atcggggtcatggcgccccgaaccttcaatctgtgtctcgggagccctggccctgaccgagacctgggctgt  
cccacitccatgagglatttctacaccgccgtgtccggcccgccggagagccccgttcaatcgagtggtta  
cgtggacgacacgcagttcgtgcggttcgacagcgacgccgcgagltccgagaggggagccgcccgcgcgtgggtg

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5 agcagTggagagccctaccctggagggcacgtgcgtggagtggtccgcagataccctggagaacgggaaggagacgt  
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Cw\*120402 :

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15 gacctgcgcctcctggacTgccgcgacacggcggtcagatcaccagcgcaaglgggaggcgcccgctgaggcgg  
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20 gagatacacgtgccatgtgcagcacagggggtgccagagccccctacccctgagatgggagccatcttcccagccc  
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Cw\*1205 :

25 atgcgggtcatggcgccccgaacccctcatcctgcctgcctcgggagccccggccccgaccgagacctgggcccgtct  
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Cw#1206:

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Cw#1207:

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25 gtggagcaggaggggcccggagtaattgggaccgggagacacagaaglaaagcggccaggcacaggctgaccgagtG  
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Cw#1208:

5 atgcgggicaiaggcggccgaacccicacccigcigciccgaggagcccgcccgaccgagaccigggccigc  
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cgiggacgacacgcagticgicgggticgacagcgacggcgagticcaagaggggagcccgggcgccgigggtg  
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10 gggggccgacggcgccicctccgcgggtatgaccaglcggccicgacggcaaggatitacatcgccctgaacgag  
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20 Cw#140201:

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25 tgcggaaccigcgcggcicacacaccagagcgaggccgggticacacccicaglggaigtigggcigcgacct  
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gccc tgggtctctaccc tgcggagatcacac tacc tggcag tggatggggaggaccaaac taggacaccgagc  
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5 gagatacacgtgccatgtgcagcacgaggggtgccggagcccc taccctgagatgggagccgtcttcccagccc  
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Cw\*140202 :

10 gctcccatccatgaggtatttctCcacatccgtgtcccgccccggccgaggagccccgttcatcgcagtggg  
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gtggagcaggaggggcccggaglat tgggaccgggagacacagaagtacaagcgccaggcacagactgaccgag tga  
gcc tgcggaacctgcgcggctactacaaccagagcgaggccgggtctcacacctccag tggatgtTtggctgcga  
cc tggggcccgacgggcgcctcc tccgcgggtatgaccagtCgcctacgacggcaaggattacatgcccc tgaac  
15 gaggacctgcgtctctggaccgcccgagacacggcggtcagatcacccagcgcaagtgggaggcgccccgtgagg  
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gctgcagcgcgcgg (SEQ ID NO:102);

Cw\*1403 :

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5 tTgTgatgTgTaggaggaagagcTcaggTggaaaaggaggggagcTgcTctcaggcTgcTccagcaacagTgccc  
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CW\*1404 :

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10 gtggagcaggaggggcccggaglatigggaccgggagacacagaagtacaagcgccaggcacaggctgaccgagtg  
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15 gctgcagcgcgcg(SAQ ID NO:104);

CW\*1405 :

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20 gccgtcggaacctgcgcggctactacaaccagagcgaggccgggtctcacacctccagtggatgtatggctgcga  
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25 Cw\*150201 :

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ttgtgattgtgtaggaggaagagctcaggctggaaaaggaggaggctgtctcctcaggctgcgtccagcaacagtgccta  
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Cw\*150202 :

15 gctcccatccatgaggtaattctacaccgctgtgtcccggcccgccgcggagagccccActtcatcgcagtggg  
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20 gaggacctgcgctccctggaccgcccgggacacggcggctcagatcaccagcgcaagtgggaggcgggccgtgagg  
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gctgcagcgccgg (SEQ ID NO:107);

Cw\*1503 :

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5 g cagcgcgcggaacacccaaagacacacg t gaccaccat cccg t c t c t gacca t gaggccaccc t gagg tgc tgg  
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t t g tggagaccaggccagcaggagat ggaacct tccagaagtgggcagc t g tgg tgg tgc t t c tggagaagagca  
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10 t t g t g a t g t g t aggaggaagagc t cagg tggaaaaggaggagc t g c t c t caggc tgcg tccagcaacag t g ccca  
gggc t c t g a t g a g t c t c t c a t c g c t t g t a a (SEQ ID NO:108);  
Cw\*1504 :  
a tgcgggt catggcgccccgaacct ccc tcc tgc tgc t c t cgggagcccc tggccc t gaccgagacct tgggc tgc t  
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15 c g tggacgacacgcagt t c g tgcgg t c gacagc gacgccgcgag tccaagaggggagccgcgggcgcct tgggt g  
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20 agcagc t gaggacct acc tggagggcacg tgcg tggagtggc tccgcagat acc tggagaacgggaaggagacgc t  
gcagcgcgcggaacacccaaagacacacg t gaccaccat cccg t c t c t gacca t gaggccaccc t gagg tgc tgg  
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t t g tggagaccaggccagcaggagat ggaacct tccagaagtgggcagc t g tgg tgg tgc t t c tggagaagagca  
gagat acacg t gcca t g tgcagcacgaggggc t g cggagcccc t cacc t gaga tgggagccat c t tccagccc  
25 accat ccccat c g tgggcac t g t g c tggcc tggc t g t c c tggc t g t c c t agc t g t c c t aggagc t g t A tggc t g  
t t g t g a t g t g t aggaggaagagc t cagg tggaaaaggaggagc t g c t c t caggc tgcg tccagcaacag t g ccca  
gggc t c t g a t g a g t c t c t c a t c g c t t g t a a (SEQ ID NO:109);

Cw#150501 :

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cgtggacgacacgcagTtcgtcggtTcgacagcgaccccgagTccaagaggggagccgTggcgccgtgggtg  
5 gaggcaggaggggcccggagTatTgggaccgggagacacagaacTacaagcgccaggcacagacTgaccgagTgaacc  
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10 gcagcgcggaacacccaaagacacacgtgaccaccaTcccgTctTgaccatgaggccacccTgaggTgctgg  
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15 ttTgtatgtTgaggagaagagctcaggTggaaaaggaggagctgtctTcaggctgcgtccagcaacagTgcccc  
gggtctgtatgagTctTcatcgctTgtaa (SEQ ID NO:110);

Cw#150502 :

atgcgggtcattggcgccccgaacccTctctctgctgctctcgggagcccTggcccTgaccgagaccTggccTgct  
cccactccatgaggtatTctacaccgctgtgTcccggccggccgagagccccactTcatcgcatgggctla  
20 cgtggacgacacgcagTtcgtcggtTcgacagcgaccccgagTccaagaggggagccgTggcgccgtgggtg  
gaggcaggaggggcccggagTatTgggaccgggagacacagaacTacaagcgccaggcacagacTgaccgagTgaacc  
TgcggaaacTgcgcggctactacaaccagagcgaggccgggtTcacatcatccagaggatgtatTggctgcgacct  
ggggcccgacggcgccTccTccgcgggcTgaccagTtcgctTcgacggcaaggatTacatcgccTgaacgag  
gacctgcgcTccTggaccgcccggacacggcggtTcagatcaccagcgcaagTgggaggcgcccgTgaggcgg  
25 agcagctgagagccTaccTggagggcacgtgcTggagTggctccgcagataccTggagaacgggaaggagacgct  
gcagcgcggaacacccaaagacacacgtgaccaccaTcccgTctTgaccatgaggccacccTgaggTgctgg  
gcccTgggtTctTaccTgcggagatcacacTgacctggcagcggaTggcgaggaccaaactcaggacaccgagc

ttgtggagaccaggccagcaggagaiggaaccttccagaagtgggcagctgtgggtggcttctggagaagagca  
gagatcacgtgccatgtgcagcacgaggggctgccggagccccctacccctgagatgggagccaatctccagccc  
accatccccatcgtgggcatcgtgtcgtggcctggcgtgtcctggcgtgtcctagctgtcctaggagctgtgtgtgctg  
ttgtgatgtgtaggaggaagagctcaggctggaaaaggaggaggagctgtcctcaggctgtcgtccagcaacagtgtccca  
5 gggctctgatgagctcctcctcgttgtta (SEQ ID NO:111);

Cw#1506:

atgcgggcatggcgtccccgaacctctcctcgtgtcctcgtggagccccctggccccctgaccgagacctgggctgtct  
cccactccatgaggtatctctacaccgtgtgtcctggccccggccgagagagccccacttctcagcagtggtta  
cgtggagcagacgcagctcgtgtcgtgtcgtacagcgacgccgagctccaagaggggagccggtggcgccgtgggtg  
10 gagcaggagggggccggagtattgggaccgggagacacagaactacaagcgccaggcacagactgaccgagtgaacc  
tgcggaacctgcgtggctactacaaccagagcgaggccgggtctcactcactcagaggatgtatggctgtcgacct  
ggggccccgacggggtccctcctggggcatgaccagctacgctacgacggcaaggattacatgccccgaacgag  
gacctgtcgtctctggaccgccccggacacggcggctcagatcaccagcgcaagtgaggaggcgccccgtgaggcgg  
agcagctgagagcctacctggagggcacgtgtcgtggagtggctcctcagatacctggagaacgggaaggagacgct  
15 gcagcgcggaacacccaaagacacacgtgacctaccatctcgtctgtacctgaggccacctgagggtgtgtg  
gccccgggtctctacctgtcgagatcacactgacctggcagcgggaltggcgaggaccaaactcaggacaccgagc  
ttgtggagaccaggccagcaggagaiggaaccttccagaagtgggcagctgtgggtggcttctggagaagagca  
gagatcacgtgccatgtgcagcacgaggggctgccggagccccctacccctgagatgggagccaatcttccagccc  
accatccccatcgtgggcatcgtgtcgtggcctggcgtgtcctggcgtgtcctagctgtcctaggagctgtgtgtgctg  
20 ttgtgatgtgtaggaggaagagctcag (SEQ ID NO:112);

Cw#1507:

gtccccactccatgaggtatctctacaccgtgtgtcctggccccggccgagagagccccacttctcagcagtggt  
ctacgtggagcagacgcagctcgtgtcgtgtcgtacagcgacgccgagctccaagaggggagccggtggcgccgtgg  
gtggagcaggagggggccggagtattgggaccgggagacacagaactacaagcgccaggcacagactgaccgagtga  
25 gccgtcggaacctgtcgtggctactacaaccagagcgaggccgggtctcactcactcagaggatgtatggctgtcga  
ccctggggccccgacggggtccctcctggggcatgaccagttatgctacgacggcaaggattacatgccccgaac  
gaggacctgtcgtctctggaccgccccggacacggcggctcagatcaccagcgcaagtgaggaggcgccccgtgagg

cggagcagcTgagagccIaccIggagggcacgIgcgIggagIggcIccgcagataccIggagaacgggaaggagac  
gcIgcagcgcgcg (SEQ ID NO:113);

Cw\*1508 :

gcIcccacIccatIaggtatIctIacaccgcIgtIgccggcccgccgagagccccActIcaIcgcagIggg  
5 ctacIggacgacacgcagIcgtIcggtIcgacagcgacgccgagIccaagaggggagccgcgggcgccgIgg  
IggagcaggagggggccggagIatIgggaccgggagacacagaaCtacaagcgccaggcacagacIgaccgagIga  
accIgcggaaActIgcgcggtIactIacaaccagagcgaggccgggIctIacatIcAlccagaggaIgtatIggcIgcga  
ccIggggcccgacgggcgccIccIccgcgggCaltgaccagIAGcctacgacggcaaggatIacatIgcctIgaac  
gaggaccIgcgcIccIggaccgccgagacacggcggtIcagatIaccagcgcaagIgggaggcgcccgIgagg  
10 cggagcagcgagagccIaccIggagggcacgIgcgIggagIggcIccgcagataccIggagaacgggaaggagac  
gcIgcagcgcgcg (SEQ ID NO:114);

Cw\*1509 :

gcIcccacIccatIaggtatIctIacaccgcIgtIgccggcccgccgagagccccactIcaIcgcagIggg  
ctacIggacgacacgcagIcgtIcggtIcgacagcgacgccgagIccaagaggggagccgcgggcgccgIgg  
15 IggagcaggagggggccggagIatIgggaccgggagacacagaacIacaagcgccaggcacagacIgaccgagIga  
accIgcggaaacIgcgcggtIactIacaaccagagcgaggccgggIctIacatIcAlccagaggaIgtatIggcIgcga  
ccIggggcccgacgggcgccIccIccgcgggCaltgaccagICgcctacgacggcaaggatIacatIgcctIgaac  
gaggaccIgcgcIccIggaccgccgagacacggcggtIcagatIaccagcgcaagIgggaggcgcccgIgagg  
cggagcagcTgagagccIaccIggagggcacgIgcgIggagIggcIccgcagataccIggagaacgggaaggagac  
20 gcIgcagcgcgcg (SEQ ID NO:115);

Cw\*1510 :

gcIcccacIccatIaggtatIctIacaccgccgIgtIgccggcccgccgagagccccgcIcaIcgcagIggg  
ctacIggacgacacgcagIcgtIcggtIcgacagcgacgccgagIccaagaggggagccgcgggcgccgIgg  
gtIggagcaggagggggccggagIatIgggaccgggagacacagaaCtacaagcgccaggcacagacIgaccgagIga  
25 accIgcggaaActIgcgcggtIactIacaaccagagcgaggccgggIctIacatIcAlccagaggaIgtatIggcIgcga  
ccIggggcccgacgggcgccIccIccgcgggCaltgaccagIAGcctacgacggcaaggatIacatIgcctIgaac  
gaggaccIgcgcIccIggaccgccgagacacggcggtIcagatIaccagcgcaagIgggaggcgcccgIgagg

cggagcagcTgagagccIaccIggagggcacgtgcgtggagIggcIccgcagataccIggagaacgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:116);

Cw#1511 :

gctccacIccaIagggIatIctIacaccgcIgtgIcccgccAgccgcggagagccccActIcatcgcagIggg  
5 cIacgtggacgacacgcagIcgtIcgggtIcgacagcgacgccgcgagIccaagaggggagccgcgggcgcctIgg  
gtggagcaggagggggcggagIatIgggaccgggagacacagaagIacaagcgccaggcacagacIgaccgagIga  
accIgcggaaActIgcgcggctactIacaaccagagcgaggccgggtIcacaIcatccagaggatIgtatggcIgcga  
ccIggggcccgacgggcgcctccIccgcgggCatgaccagIAGccIacgacggcaaggatIacatcgccctgaac  
gaggaccIgcgcIccIggaccgccgcggacacggcggcIcagaIacccagcgcaagIgggaggcgcccgIgagg  
10 cggagcagcTgagagccIaccIggagggcacgtgcgtggagIggcIccgcagataccIggagaacgggaaggagac  
gctgcagcgcgcgg (SEQ ID NO:117);

Cw#1601 :

atgcgggtIcaIggcgccccgaacccIcatcctIgtIgtcIcgggagccccIggccctgaccgagaccIggccctgtcI  
cccacIccaIagggIatIctIacaccgcgtIgtcccgccggcgccggagagccccgtIcatcgcagIgggctIa  
15 cgIggacgacacgcagIcgtIcgggtIcgacagcgacgccgcgagIccaagaggggagccgcgggcgcctIgggtIg  
gagcaggagggggcggagIatIgggaccgggagacacagaagIacaagcgccaggcacagacIgaccgagIagcc  
IgcggaaccIgcgcggcIactIacaaccagagcgaggccgggtIcacacccIccagIggatIgtatggcIgcgacct  
ggggcccgacgggcgcctccIccgcgggtatgaccagIccgccIacgacggcaaggatIacatcgccctgaacgag  
gaccIgcgcIccIggaccgccgcggacacggcggcIcagaIacccagcgcaagIgggaggcgcccgIgcggcgg  
20 agcagcAgagagccIaccIggagggcacgtgcgtggagIggcIccgcagataccIggagaacgggaaggagacgtI  
gcagcgcgcggaaacacccaaagacacacgtIacccaccatcIcgtIcIcgacctgaggccacccIaggtIgtIgg  
gcccIgggctIctIacccIgcggagatcacactgaccIggcagcgggatggcgaggaccaaacIcaggacaccgagc  
tIgtIggagaccaggccagcaggagaIggaaacIccagaagIgggcagcIgtIgtIgtIgtcctIcIggagaagagca  
gagaIacacgtIccaIgtIgcagcacgagggcIgccggagccccIacccIgagaIgggagccaIctIccagccc  
25 accatccccatcgtIgggatcgtIgtcIggccIggcIgtcctIggcIgtcctIagcIgtcctIaggagcIgtIgtIggcIgt  
tIgtIatgtIataggaggaagagcIcaggIggaaaaggaggagcIgtcIcIcaggcIgcgtIccagcaacagIgtccca  
gggctcIgtatgagIcIcIcatcgctIgtIaa (SEQ ID NO:118);

Cw\*1602 :

atgcgggtcaltggcgccccgaacccatcctgctgctcctgggagcccaggcccagaccagagacctgggcccgt  
cccactccaatgaggtatctacaccgcccgtgctccggccggcgaggagccccgtctatcgagatgggctat  
cgtggacgacacgcagtcgtgcccgtcgacagcgacgccgcgagccaagaggggagccgcccggcgccgtgggtg  
5 gagcaggagggggccggagtatgggaccgggagacacagaagtaagaagccaggcacagacagaccagatgaacc  
tgcggaaatcgccggctatataaccagagcgaggccgggtctcacacccctcagatggaatggtgctgaccc  
ggggcccgacggcgccctccctccgggtatgaccagtcgcccacgacggcaaggattacatcgcccgaacgag  
gacctgctgctccctggaccgccggacacggcggtcagatcacccagcgcaagtgaggagcgcccgctgcccgg  
agcagcAgagagccctaccatggagggcacgtgctggagtggtccgcagataccatggagaacgggaaggagacgt  
10 gcagcgcggaacacccaaagacacacgtgaccaccaatctgctctgacctgagggccacctgaggctgctgg  
gcccgggctctacccatcgaggatcacacagaccatggcagcgggatggcgaggaccaaacatcaggacaccgagc  
ttgtggagaccaggccagcaggagatggaacctccagaagtgggcagctgtggtggctctctggagaagagca  
gagatcacgtgccatgtgcagcacaggggctgcccggagccccctacccatgagatgggagccaatctccagccc  
accatccccatcgiggcatcgtgctggccggctgtctggctgtccatgctgtccataggagctgtggtggctg  
15 ttgtatgtatgtaggaggaagagctcaggtggaaaaggaggagctgctctcaggctgcgtccagcaacagtgccca  
gggctctgatgagctctcctatcgctgttaa (SEQ ID NO:119);

Cw\*160401 :

atgcgggtcaltggcgccccgaacccatcctgctgctcctgggagcccaggcccagaccagagacctgggcccgt  
cccactccaatgaggtatctacaccgcccgtgctccggccggcgaggagccccgtctatcgagatgggctat  
20 cgtggacgacacgcagtcgtgcccgtcgacagcgacgccgcgagccaagaggggagccgcccggcgccgtgggtg  
gagcaggagggggccggagtatgggaccgggagacacagaagtaagaagccaggcacagacagaccagatgagcc  
tgcggaacctgcccggctatataaccagagcgaggccgggtctcacacccctcagatggaatggtgctgaccc  
ggggcccgacggcgccctccctccgggtatgaccagtcgcccacgacggcaaggattacatcgcccgaacgag  
gacctgctgctccctggaccgccggacacggcggtcagatcacccagcgcaagtgaggagcgcccgctgcccgg  
25 agcagTggagagccctaccatggagggcacgtgctggagtggtccgcagataccatggagaacgggaaggagacgt  
gcagcgcggaacacccaaagacacacgtgaccaccaatctgctctgacctgagggccacctgaggctgctgg  
gcccgggctctacccatcgaggatcacacagaccatggcagcgggatggcgaggaccaaacatcaggacaccgagc

tttgaggagaccaggccagcaggagatggaaccttccagaagtgggcagctgttggtggccttctggagaagagca  
gagatacacgtgccatgtgcagcacgaggggtgcccggagccccacacctgagatgggagccatcttcccagccc  
accatccccatcgiggcatcggttgcctggcctggcgtgtccggcgtgtccctagctgttcttaggagctgttggtggcgtg  
ttgtTatgtgttaggaggaagagctcag(SEQ ID NO:120);

## 5 Cw\*1701 :

atgcgggicalggcgccccaagccctccctctgtgtcttccggagccctggccctgatcgagacctgggccggct  
cccacitccatgaggtatttctacaccgccgtgtcccgcccgcccgaggagagccccgttcatcgagtggtgcta  
cgtggacgacacgcagttcgtgcggttcgacagcgacgcccgagttccgagaggggagccgccccgcccgtgggtg  
gagcaggagggggccggagtattgggaccgggagacacagaagtaaacgcccaggcacaggctgaccgagtgaacc.  
10 tgcggaaactgcgcggctactacaaccagagcgaggccggttctcacaccatccagaggatgtatggctgcgacct  
ggggcccgacggcgccctccctccgcggtataaaccagttcgcttaccgacggcaaggattacatcgcccigaacgag  
gacctgcgttctggaccgcgccggacacggcggtcagatctccagcgcaagttggaggcgcccgtagggcgg  
agcagctgagagcctacctggaggcgagtgctgtggatggctccgcggaatctggagaacgggaaggagacgt  
gcagcgcgcggaacgccccaaagacacacgtgaccacacatcccgctcttgacctgaggccacctgagggtgtgg  
15 gcccgggcttctacccitcgcgagatcacacgtgacctggcagcgggatggggaggaccaaactcaggacaccgagc  
tttgaggagaccaggccagcaggagatggaaccttccagaagtgggcagctgttggtggccttctggacaagaaca  
gagatacacgtgccatgtgcagcacgaggggtgcaggagccctgcacctgagatggaagccgtcttcccagccc  
accatccccaaacttgggcatcggttctggcccagctgtcttggcgtgtccctggcgtgtccctagctgttcc  
taggagctgttggtcgctgtgtgataC(SEQ ID NO:121);

## 20 Cw\*1702 :

atgcgggicalggcgccccaagccctccctctgtgtcttccggagccctggccctgatcgagacctgggccggct  
cccacitccatgaggtatttctacaccgccgtgtcccgcccgcccgaggagagccccgttcatcgagtggtgcta  
cgtggacgacacgcagttcgtgcggttcgacagcgacgcccgagttccgagaggggagccgccccgcccgtgggtg  
gagcaggagggggccggagtattgggaccgggagacacagaagtaaacgcccaggcacaggctgaccgagtgaacc  
25 tgcggaaactgcgcggctactacaaccagagcgaggccggttctcacaccatccagaggatgtatggctgcgacct  
ggggcccgacggcgccctccctccgcggtataaaccagttcgcttaccgacggcaaggattacatcgcccigaacgag  
gacctgcgttctggaccgcgccggacacggcggtcagatctccagcgcaagttggaggcgcccgtagggcgg

atgCGGGTcaTggCGCCCCaGcccTccTcGtGcTcTcGGGagcccTggcccTgaTcgagaccTggAccggcT  
cccaTccatGaggtatTtTcTaccgcCGtGtcccGGcccGGcCGGagagccccGcTtcaTcgagTgggcTt  
cGtggacgacacgcagTtcGtGcGgtTcgacagcgacGccGcgagTccgagaggggagccGcgggcgccGtgggTg  
gagcaggaggggcccGgagTatTgggaccgggagacacagaagTacaagcGccaggcTgaccgagTgaacc  
TgcGgaacTgcGcgGcTactacaaccagagcgaggccGgtTcTcacaccatccagaggatGtTatggcTgcgacct  
ggggcccGacggGcgccTccTccGcgGgtatTaccagTtcGcctacgacggcaaggatTacaTgcccTgaacgag  
gaccTgcGcTccTggaccGcgGcgGgacacggcgGcTcagatcTcccagcgcaagTtggaggcgGcccGtGaggcgG  
agcagcTgagagccTacctggagggcgagTgcGtggagTggcTccGcggaTaccTggagaacgggaaggagacGcT

15 gcagcgcgcggaacgccaaagacacacgtagccaccatcccgtctcagaccatgaggccacccatgaggtagctgg  
gcccagggtctcaccatgctggagatcacacagaccaggcagcggaatggggaggacaaactcaggacaccgagc  
ctgaggagaccaggccagcaggagatggaacctccagaagtgggcagctgtggtggtagctctcggacaagaaca  
gagatcacctgccaatgtagcagcacagggggctgcaggagccctgcaccctagatggaagccgtctcccagccc  
accatcccaacttgggcacgtctcaggccagctgtccaggctgtccaggctgtccaggctgtccaggctgtcc  
20 taggagctgtggtgcgtgctgtgatac (SEQ ID NO: 123);

atgctgggtatcattggcgcctccgagccctccctcctgctgctctcgggaggccctggccctgaccgagaccctggccctgct  
cccatcctatgaggtattctgacaccgctgtctccggccggccgaggagagccctgcttcatctcagctgggctta  
cgtggacgacacgcagctcgtgctgctgacagcgacgctgcgagctccgagaggaggagccctgggctgctgctgggtg  
gagcaggaggggccggagttatgggaccgggagacacagaagtaacaagcgcaggcacaggctgaccgagctgaacc  
tgcggaaactgcgcggctactacaaccagagcgaggacgggtctcacacctccagaggatgtttggctgcgacct  
ggggccggacgggcgctctcctccgctgggtataaccagttcgcttaccgacggcaaggattacatcgccctgaaccgag



- gatlccgclccaggaccgacacggcggtcagatcaccagcgcaagtgaggaggcgcccgtagggcgg  
 agcagcggagagccaccaggaggcacgigcgtggagtggtccgcagataccaggagaacgggaaggagacgt  
 gcagcgcgggaacacccaaagacacacgtagccacatcccgctc|gacca|aggccaccc|agggtgclgg  
 gccc|gggt|t|lacc|g|ggagatcacac|gacc|ggcag|ggga|ggggaggaccaaac|caggacaccgagc  
 5 t|gtggagaccaggccagcaggagatggaacct|ccagaagtgggcagc|gtgg|gg|g|c|t|t|ggagaagagca  
 gaga|acac|g|ccat|g|gcagcacgagggc|g|ccggagcccc|cacc|tgat|ggAagccg|t|t|ccagccc  
 accat|cccc|c|gtggg|c|c|gt|g|c|ggc|ggc|g|c|c|ggT|g|t|c|c|agc|g|t|c|c|aggagc|g|t|gg|ggc|g  
 t|gt|gat|g|t|aggaggaagagc|cag|ggaaaaggaggagc|g|c|t|c|aggc|g|c|g|t|c|cagcaacag|g|cccc  
 gggc|t|c|gat|gag|t|c|t|c|at|c|g|t|g|aa (SEQ ID NO:124);
- 10 Cw#1802 :
- atg|ggg|cat|ggc|cccc|gag|ccc|t|c|t|c|g|t|g|c|t|c|ggg|agg|c|t|gg|ccc|g|acc|gag|acc|t|gg|cc|t|g|c|t|  
 ccc|ac|t|ccat|gag|gat|t|t|c|g|ac|acc|g|c|c|g|t|c|c|c|gg|c|c|gg|c|c|gg|gag|ag|cccc|g|c|t|c|at|c|t|cag|t|gg|g|c|t|a  
 c|g|t|gg|ac|gac|ac|g|cag|t|c|g|t|c|gg|t|c|g|ac|g|c|g|c|c|g|g|c|c|g|g|g|c|c|g|g|g|g|g|g|c|c|g|g|g|c|c|g|t|gg|g|g|  
 gag|cag|gag|ggg|c|c|g|g|at|t|ggg|acc|ggg|gag|ac|ac|aga|agt|aca|ag|c|g|c|c|agg|c|ac|agg|c|g|acc|gag|t|ga|acc  
 15 t|g|cg|gaa|ac|t|g|c|g|gg|c|t|ac|t|aca|acc|ag|ag|c|gag|g|ac|gg|g|c|t|c|ac|acc|t|ccag|agg|at|gt|t|gg|c|t|g|c|g|ac|t|  
 ggg|g|c|c|gg|ac|gg|g|c|g|c|t|c|t|c|c|g|g|g|t|a|a|acc|ag|t|c|g|c|t|ac|g|ac|g|g|ca|agg|at|t|ac|at|c|g|c|c|t|ga|ac|gag  
 ga|Tc|t|g|c|g|c|t|c|t|gg|acc|g|c|c|g|g|ac|ac|g|c|g|g|c|c|cag|at|c|acc|c|ag|c|g|ca|agt|ggg|agg|c|g|g|c|c|c|t|gag|g|c|g|g|  
 ag|cag|c|g|g|ag|ag|c|t|acc|t|gg|agg|g|cac|g|t|g|c|g|t|gg|ag|t|gg|t|c|c|g|cag|at|acc|t|gg|aga|ac|gg|ga|agg|ag|ac|g|c|t|  
 gcag|c|g|c|g|g|ga|ac|ac|cc|aa|ag|ac|ac|ac|g|t|g|acc|c|ac|at|cc|c|g|t|c|t|g|acca|t|gag|g|c|c|ac|c|t|gag|g|t|g|c|t|gg  
 20 gccc|t|gg|g|t|t|t|lacc|t|g|c|g|gagatcacac|gacc|t|gg|cag|t|ggga|ggggaggaccaaac|caggacaccgagc  
 t|gt|ggagaccaggccagcaggagatggaacct|ccagaagtgggcagc|gtgg|gg|t|g|c|t|t|t|ggagaagagca  
 gaga|acac|g|t|ccat|g|t|gcagcacgagggc|g|c|c|ggag|cccc|t|cacc|t|gaga|ggAagccg|t|t|t|ccagccc  
 accat|cccc|c|gtggg|c|c|gt|g|c|t|gg|c|t|gg|c|t|c|c|t|ggc|t|g|t|c|t|aggagc|gt|gg|t|gg|c|t|g  
 t|gt|gat|g|t|aggaggaagagc|cag|ggaaaaggaggagc|g|c|t|c|cag|c|g|c|t|c|cagcaacag|g|cccc  
 25 gggc|t|c|gat|gag|t|c|t|c|at|c|g|t|g|aa (SEQ ID NO:125);

In the following, Probe Lists C1 and C2 are

shown In Tables 9-1 to 9-4 and Tables 10-1 to 10-4 respectively.

Table 9-1

Probe No.	Base Sequence
0	c acc ctc cag tgg atg tG ( SEQ ID No: 1 2 6)
1	c cgc ggg tat gac cag tA ( SEQ ID No: 1 2 7)
2	g acc gcc gcg gac acC ( SEQ ID No: 1 2 8)
3	ag aag tgg gca gct gtg A ( SEQ ID No: 1 2 9)
4	c ctc ctc cgc ggg tat A ( SEQ ID No: 1 3 0)
5	g cgc tcc tgg acc gcT ( SEQ ID No: 1 3 1)
6	g cac gag ggg ctg ccA ( SEQ ID No: 1 3 2)
7	ct gtc cta gga gct gtg A ( SEQ ID No: 1 3 3)
8	c acc ctc cag agg atg tC ( SEQ ID No: 1 3 4)
9	gg gag gcg gcc cgt gT ( SEQ ID No: 1 3 5)
10	ggg cgc ctc ctc cgc A ( SEQ ID No: 1 3 6)
11	c aag tgg gag gcg gcc T ( SEQ ID No: 1 3 7)
12	c cgt gag gcg gag cag T ( SEQ ID No: 1 3 8)
13	a gtg aac ctg cgg aaa ctA ( SEQ ID No: 1 3 9)
14	cc ctg ggc ttc tac cct A ( SEQ ID No: 1 4 0)
15	g acc gcc gcg gac acA ( SEQ ID No: 1 4 1)
16	gct gtg tcc cgg ccc A ( SEQ ID No: 1 4 2)
17	g acc gcc gcg gac acG ( SEQ ID No: 1 4 3)
18	cc ctg aga tgg gag ccA ( SEQ ID No: 1 4 4)
19	gg tct cac acc ctc cag A ( SEQ ID No: 1 4 5)
20	cgc ggg tat gac cag tC ( SEQ ID No: 1 4 6)
21	gcc tac ctg gag ggc gA ( SEQ ID No: 1 4 7)
22	c tcc cac tcc atg agg tG ( SEQ ID No: 1 4 8)
23	cgc ggg cat gac cag ttA ( SEQ ID No: 1 4 9)
24	g gac caa act cag gac acT ( SEQ ID No: 1 5 0)
25	c aac cag agc gag gcc A ( SEQ ID No: 1 5 1)
26	ag gcc agg tct cac atc A ( SEQ ID No: 1 5 2)
27	g aag tgg gca gct gtg G ( SEQ ID No: 1 5 3)
28	gcg gac acg gcg gcC ( SEQ ID No: 1 5 4)
29	at ggc tgc gac gtg ggA ( SEQ ID No: 1 5 5)
30	g gcc ggg tct cac atc A ( SEQ ID No: 1 5 6)

Table 9-2

Probe No.

Base Sequence

31	c atc atc cag agg atg taC ( SEQ ID No: 157)
32	c cgc aga tac ctg aag aaT ( SEQ ID No: 158)
33	ct cac acc ctc cag agC ( SEQ ID No: 159)
34	ctc ctc cgc ggg tat gT ( SEQ ID No: 160)
35	ca cag act gac cga gtg aA ( SEQ ID No: 161)
36	cga gtg aac ctg cgg aaA ( SEQ ID No: 162)
37	gg atg tat ggc tgc gac G ( SEQ ID No: 163)
38	gcc tac ctg gag ggc cT ( SEQ ID No: 164)
39	gac cgg gag aca cag aaC ( SEQ ID No: 165)
40	g gag ccc cac ttc atc G ( SEQ ID No: 166)
41	cga gtg agc ctg cgg aaA ( SEQ ID No: 167)
42	cgc ggg tat gac cag tTA ( SEQ ID No: 168)
43	g gag gcg gcc cgt gC ( SEQ ID No: 169)
44	c tac aac cag agc gag gA ( SEQ ID No: 170)
45	cgt gag gcg gag cag cT ( SEQ ID No: 171)
46	cta gct gtc cta gga gct A ( SEQ ID No: 172)
47	ggc tac gtg gac gac acA ( SEQ ID No: 173)
48	gc cgc gga gag ccc cA ( SEQ ID No: 174)
49	g aga tac acg tgc cat gtT ( SEQ ID No: 175)
50	ga ggg gag ccg cgg gA ( SEQ ID No: 176)
51	c atc gca gtg ggc tac C ( SEQ ID No: 177)
52	c tgc gac ctg ggg ccG ( SEQ ID No: 178)
53	tc tcc aca tcc gtg tcc T ( SEQ ID No: 179)
54	c aag cgc cag gca cag G ( SEQ ID No: 180)
55	gg acc gcc gcg gac aA ( SEQ ID No: 181)
56	ctc acc ctg aga tgg gG ( SEQ ID No: 182)
57	tg tgc gtg gag tgg ctG ( SEQ ID No: 183)
58	cc atc tct gac cat gag gT ( SEQ ID No: 184)
59	ac ctg gag aac ggg aag A ( SEQ ID No: 185)
60	c cgc ggg tat aac cag tT ( SEQ ID No: 186)

Table 9-3

Probe No.

Base Sequence

61	g gag ccg cgg gcg cG ( SEQ ID No: 187)
62	t ccg aga ggg gag ccC ( SEQ ID No: 188)
63	g agg tat ttc tac acc gcT ( SEQ ID No: 189)
64	c gac gcc gcg agt ccA ( SEQ ID No: 190)
65	gt cca aga ggg gag ccC ( SEQ ID No: 191)
66	gcg ccg tgg gtg gag A ( SEQ ID No: 192)
67	c acc ctc cag agg atg tA ( SEQ ID No: 193)
68	g atc acc cag cgc aag tT ( SEQ ID No: 194)
69	g acg ctg cag cgc gcA ( SEQ ID No: 195)
70	c tct gat gag tct ctc atc A ( SEQ ID No: 196)
71	gag cca tct tcc cag ccT ( SEQ ID No: 197)
72	ga gtc tac ctg gag ggA ( SEQ ID No: 198)
73	t gcg gcg gag cag gaC ( SEQ ID No: 199)
74	aac ctg cgc gcc tac taT ( SEQ ID No: 200)
75	g tct cac acc ctc cag aaT ( SEQ ID No: 201)
76	a gct gtg gtc acc gct aA ( SEQ ID No: 202)
77	c acc ctc cag agg atg tT ( SEQ ID No: 203)
78	ag gac ggg tct cac atc A ( SEQ ID No: 204)
79	ac atc atc cag agg atg tC ( SEQ ID No: 205)
80	tgc tct cag gct gcg tG ( SEQ ID No: 206)
81	c cgc ggg tat gac cag tT ( SEQ ID No: 207)
82	g gag acg ctg cag cgc A ( SEQ ID No: 208)
83	g ccc ctc acc ctg agC ( SEQ ID No: 209)
84	ggg agc tgc tct cag gT ( SEQ ID No: 210)
85	cgt acg gcg gag cag cT ( SEQ ID No: 211)
86	acc ctc cag agg atg taC ( SEQ ID No: 212)
87	tgg gag gcg gcc cgt A ( SEQ ID No: 213)
88	cgc aga tac ctg gag aac A ( SEQ ID No: 214)
89	gcc tac ctg gag gcc G ( SEQ ID No: 215)
90	ga tac ctg gag aac ggg G ( SEQ ID No: 216)

Table 9-4

Probe No.	Base Sequence
91	ac ctg cgc tcc tgg acT (SEQ ID No: 217)
92	g cgc tcc tgg acc gcG (SEQ ID No: 218)
93	a gag ccc cgc ttc atc G (SEQ ID No: 219)
94	c acc ctc cag tgg atg tA (SEQ ID No: 220)
95	cag tcc gcc tac gac gT (SEQ ID No: 221)
96	a cag gct gac cga gtg G (SEQ ID No: 222)
97	cac tcc atg agg tat ttc tC (SEQ ID No: 223)
98	c acc ctc cag tgg atg tT (SEQ ID No: 224)
99	a cag gct gac cga gtg aA (SEQ ID No: 225)
100	atc gcc ctg aac gag gaT (SEQ ID No: 226)
101	gc ctc ctc cgc ggg C (SEQ ID No: 227)
102	tc atg gcg ccc cga acT (SEQ ID No: 228)
103	cgc ggg cat gac cag tT (SEQ ID No: 229)
104	cgc ggg cat gac cag tC (SEQ ID No: 230)
105	gt gcg gcg gag cag cA (SEQ ID No: 231)
106	gct gtg gtg gct gtt gtT (SEQ ID No: 232)
107	cgt gcg gcg gag cag T (SEQ ID No: 233)
108	tg gtc gct gct gtg ata C (SEQ ID No: 234)
109	gg ctg cag gag ccc tG (SEQ ID No: 235)
110	cc ctg atc gag acc tgg A (SEQ ID No: 236)
111	cc ctc acc ctg aga tgg A (SEQ ID No: 237)
112	ggc ctg gct gtc ctg gT (SEQ ID No: 238)

Table 10-1

Probe No.

Base Sequence

0	g tgg atg tGt ggc tgc g (SEQ ID No: 239)
1	at gac cag tAc gcc tac g (SEQ ID No: 240)
2	gcg gac acC gcg gct c (SEQ ID No: 241)
3	gca gct gtg Atg gtg cct (SEQ ID No: 242)
4	cgc ggg tat Aac cag ttc (SEQ ID No: 243)
5	tgg acc gcT gcg gac ac (SEQ ID No: 244)
6	ggg ctg ccA gag ccc c (SEQ ID No: 245)
7	gga gct gtg Atg gct gtt (SEQ ID No: 246)
8	g agg atg tCt ggc tgc g (SEQ ID No: 247)
9	g gcc cgt gTg gcg gag (SEQ ID No: 248)
10	ctc ctc cgc Agg tat gac (SEQ ID No: 249)
11	g gcg gcc Tgt gag gcg (SEQ ID No: 250)
12	cg gag cag Tgg aga gcc (SEQ ID No: 251)
13	g cgg aaa ctA cgc ggc ta (SEQ ID No: 252)
14	ttc tac cct Acg gag atc a (SEQ ID No: 253)
15	gcg gac acA gcg gct c (SEQ ID No: 254)
16	c cgg ccc Agc cgc gg (SEQ ID No: 255)
17	gcg gac acG gcg gct c (SEQ ID No: 256)
18	a tgg gag ccA tct tcc ca (SEQ ID No: 257)
19	acc ctc cag Agg atg tat g (SEQ ID No: 258)
20	t gac cag tCc gcc tac g (SEQ ID No: 259)
21	g gag ggc gAg tgc gtg (SEQ ID No: 260)
22	cc atg agg tGt ttc tac ac (SEQ ID No: 261)
23	t gac cag tTA gcc tac gac (SEQ ID No: 262)
24	t cag gac acT gag ctt gtg (SEQ ID No: 263)
25	gc gag gcc Agg tct cac (SEQ ID No: 264)
26	tct cac atc Atc cag agg a (SEQ ID No: 265)
27	ca gct gtg Gtg gtg cct (SEQ ID No: 266)
28	acg gcg gcC cag atc ac (SEQ ID No: 267)
29	gac gtg ggA ccc gac g (SEQ ID No: 268)
30	g agg atg taC ggc tgc ga (SEQ ID No: 269)

Table 10-2

Probe No.	Base Sequence
31	c ctg aag aaT ggg aag gag (SEQ ID No: 270)
32	c ctc cag agC atg tac gg (SEQ ID No: 271)
33	gc ggg tat gTc cag tac g (SEQ ID No: 272)
34	c cga gtg aAc ctg cgg a (SEQ ID No: 273)
35	ctg cgg aaA ctg cgc gg (SEQ ID No: 274)
36	c tgc gac Gtg ggg ccc (SEQ ID No: 275)
37	g gag ggc cTg tgc gtg (SEQ ID No: 276)
38	g aca cag aaC tac aag cgc (SEQ ID No: 277)
39	cac ttc atc Gca gtg ggc (SEQ ID No: 278)
40	gcc cgt gCg gcg gag (SEQ ID No: 279)
41	g agc gag gAc ggg tct c (SEQ ID No: 280)
42	g gag cag cTg aga gcc t (SEQ ID No: 281)
43	cta gga gct Atg gtg gct (SEQ ID No: 282)
44	g gac gac acA cag ttc gt (SEQ ID No: 283)
45	ga gag ccc cAc ttc atc g (SEQ ID No: 284)
46	g tgc cat gTt cag cac ga (SEQ ID No: 285)
47	ccg cgg gAg ccg tgg (SEQ ID No: 286)
48	tg ggc tac Ctg gac gac (SEQ ID No: 287)
49	ctg ggg ccG gac ggg (SEQ ID No: 288)
50	c gtg tcc Tgg ccc ggc (SEQ ID No: 289)
51	ag gca cag Gct gac cga (SEQ ID No: 290)
52	c gcc gac aAg gcg gct (SEQ ID No: 291)
53	tg aga tgg gGg cca tct t (SEQ ID No: 292)
54	g gag tgg ctG cgc aga ta (SEQ ID No: 293)
55	ac cat gag gTc acc ctg a (SEQ ID No: 294)
56	aac ggg aag Aag acg ctg (SEQ ID No: 295)
57	at aac cag tTc gcc tac ga (SEQ ID No: 296)
58	cgg gcg cGg tgg gtg (SEQ ID No: 297)
59	ggg gag ccC cgg gcg (SEQ ID No: 298)
60	tac acc gcT gtg tcc cg (SEQ ID No: 299)

Table 10-3

Probe No.

Base Sequence

61	gcg agt ccA aga ggg ga ( SEQ ID No: 300)
62	gg gtg gag Aag gag ggg ( SEQ ID No: 301)
63	ag agg atg tAt ggc tgc g ( SEQ ID No: 302)
64	g cgc aag tTg gag gcg g ( SEQ ID No: 303)
65	cag cgc gcA gaa ccc c ( SEQ ID No: 304)
66	g gct gcg tGc agc aac a ( SEQ ID No: 305)
67	tcc cag ccT acc atc cc ( SEQ ID No: 306)
68	ctg gag ggA ctg tgc gt ( SEQ ID No: 307)
69	g gag cag gaC aga gcc ta ( SEQ ID No: 308)
70	c gcc tac taT aac cag agc ( SEQ ID No: 309)
71	c ctc cag aaT atg tat ggc ( SEQ ID No: 310)
72	tc acc gct aAg atg tgt ag ( SEQ ID No: 311)
73	ag agg atg tTt ggc tgc g ( SEQ ID No: 312)
74	at gac cag tTc gcc tac g ( SEQ ID No: 313)
75	ggg ctg caA gag ccc c ( SEQ ID No: 314)
76	gc tct cag gTt gcg tgc a ( SEQ ID No: 315)
77	g gcc cgt Acg gcg gag ( SEQ ID No: 316)
78	ctg gag aac Agg aag aag a ( SEQ ID No: 317)
79	g gag ggc Gcg tgc gtg ( SEQ ID No: 318)
80	c ctc cag agC atg tat gg ( SEQ ID No: 319)
81	gag aac ggg Gag aag acg ( SEQ ID No: 320)
82	tcc tgg acT gcc gcg g ( SEQ ID No: 321)
83	tgg acc gcG gcg gac a ( SEQ ID No: 322)
84	gc ttc atc Gca gtg ggc ( SEQ ID No: 323)
85	ag tgg atg tAt ggc tgc g ( SEQ ID No: 324)
86	cc tac gac gTc aag gat ta ( SEQ ID No: 325)
87	c cga gtg Ggc ctg cgg ( SEQ ID No: 326)
88	gg tat ttc tCc aca tcc gt ( SEQ ID No: 327)
89	ag tgg atg tTt ggc tgc g ( SEQ ID No: 328)
90	g aac gag gaT ctg cgc tc ( SEQ ID No: 329)



Table 10-4

Probe No.	Base Sequence
91	c cgc ggg Cat gac cag ( SEQ ID No: 3 3 0)
92	ccc cga acT ctc ctc ct ( SEQ ID No: 3 3 1)
93	c cgc ggg Cat gac cag ( SEQ ID No: 3 3 2)
94	g gag cag cAg aga gcc t ( SEQ ID No: 3 3 3)
95	g gct gtt gtT atg tgt agg ( SEQ ID No: 3 3 4)
96	t gtg gtc gcT gct gtg at ( SEQ ID No: 3 3 5)
97	g gag ccc tGc acc ctg ( SEQ ID No: 3 3 6)
98	g acc tgg Acc ggc tcc ( SEQ ID No: 3 3 7)
99	ctg aga tgg Aag ccg tct ( SEQ ID No: 3 3 8)
100	ct gtc ctg gTt gtc cta g ( SEQ ID No: 3 3 9)

Table 11-1

Allele Number	Probe Number for Detection					
Cw*0102	0	1	2	3		
Cw*0103	4					
Cw*0104	5	6	7			
Cw*0105	8					
Cw*0106	9					
Cw*0107	10					
Cw*0108	11					
Cw*0109	12					
Cw*020201	13					
Cw*020202	14					
Cw*020203	15	12				
Cw*020204	16	17	18			
Cw*020205	16	19	20	17	12	21
Cw*0203	9	21				
Cw*0204	22					
Cw*0205	16	20	17	12	21	
Cw*0206	23	21				
Cw*030201	24	18				
Cw*030202	20	24				
Cw*030301	25	26	27			
Cw*030302	28					
Cw*030303	29					
Cw*030401	30	24				
Cw*030402	30	31	32			
Cw*0305	33	32				
Cw*0306	34					
Cw*0307	35	36	30	37	38	32
Cw*0308	39	30	24			
Cw*0309	40	30	38	32		
Cw*0310	41	30	37	38	32	
Cw*0311	25	26				

Table 11-2

Allele Number	Probe Number for Detection				
Cw*0312	25	42			
Cw*0313	25	27			
Cw*0314	43	32			
Cw*0315	44	20	38	32	
Cw*0316	37	20	17	45	
Cw*040101	46				
Cw*040102	47				
Cw*0403	48	49			
Cw*0404	50	45			
Cw*0405	51				
Cw*0406	48	52	45		
Cw*0407	53	54			
Cw*0408	50	38			
Cw*0410	50				
Cw*0501	36	55	56		
Cw*0502	57				
Cw*0503	58				
Cw*0504	20	55	59		
Cw*0505	37	60	55	59	
Cw*0506	61				
Cw*0602	62	12	7		
Cw*0603	63	62	20	12	
Cw*0604	62	45			
Cw*0605	64	65	20	17	
Cw*0606	62	7			
Cw*0607	66				
Cw*0608	44	20	17	12	21
Cw*0609	62	60	12		
Cw*070101	67	68	69	70	
Cw*070102	71				

Table 11-3

Allele Number		Probe Number for Detection				
Cw*070201	8	68	70			
Cw*0703	72					
Cw*070401	73	70				
Cw*070402	74					
Cw*0705	75					
Cw*0706	76					
Cw*0707	36	67	20	68	69	
Cw*0708	77	20	68	69		
Cw*0709	36	44	67	20	68	69
Cw*0710	78	79	20	68	69	
Cw*0711	73	80				
Cw*0712	73					
Cw*0713	8	81	68	69		
Cw*0714	82					
Cw*0715	8	21	69			
Cw*0716	39	67	20	68	69	
Cw*0717	8	83				
Cw*0718	84					
Cw*080101	85	56				
Cw*080102	86	60	87			
Cw*0802	55	56				
Cw*0803	88	7				
Cw*0804	55	45	59			
Cw*0805	54	60	55	59		
Cw*0806	89	88				
Cw*0807	55	68	59			
Cw*0808	33	59				
Cw*0809	90					
Cw*120201	86	5	7			
Cw*120202	86	5	6	7		
Cw*120203	67	5				
Cw*120301	54	91	7			

Table 11-4

Allele Number		Probe Number for Detection					
Cw*120302	92	12					
Cw*120401	93	54	36	94	20	17	12
Cw*120402	54	36	91	7			
Cw*1205	36	91	7				
Cw*1206	95						
Cw*1207	96						
Cw*1208	39	86	5	6	7		
Cw*140201	97	20	27				
Cw*140202	97	98	20				
Cw*1403	97	64	20	27			
Cw*1404	97	99	98	20	100		
Cw*1405	97	94	20	100			
Cw*150201	23	7					
Cw*150202	48	39	36	101	23	45	
Cw*1503	54	23	7				
Cw*1504	20	45	7				
Cw*150501	102						
Cw*150502	101	103	7				
Cw*1506	101	7					
Cw*1507	48	39	101	23	45		
Cw*1508	48	39	36	30	101	23	
Cw*1509	101	104	45				
Cw*1510	39	36	101	23	45		
Cw*1511	16	48	36	101	23	45	
Cw*1601	105	106					
Cw*1602	36	105	106				
Cw*160401	107	106					
Cw*1701	108						
Cw*1702	109						
Cw*1703	110						
Cw*1801	111	112					
Cw*1802	62	100	111				

Table 12-1

Allele Number	Probe Number for Detection					
Cw*0102	0	1	2	3		
Cw*0103	4					
Cw*0104	5	6	7			
Cw*0105	8					
Cw*0106	9					
Cw*0107	10					
Cw*0108	11					
Cw*0109	12					
Cw*020201	13					
Cw*020202	14					
Cw*020203	15	12				
Cw*020204	16	17	18			
Cw*020205	16	19	20	17	12	21
Cw*0203	9	21				
Cw*0204	22					
Cw*0205	16	20	17	12	21	
Cw*0206	23	21				
Cw*030201	24	18				
Cw*030202	20	24				
Cw*030301	25	26	27			
Cw*030302	28					
Cw*030303	29					
Cw*030401	26	24				
Cw*030402	26	30	31			
Cw*0305	32	31				
Cw*0306	33					
Cw*0307	34	35	26	36	37	31
Cw*0308	38	26	24			
Cw*0309	39	26	37	31		
Cw*0310	35	26	36	37	31	
Cw*0311	25	26				

Table 12-2

Allele Number	Probe Number for Detection				
Cw*0312	25	23			
Cw*0313	25	27			
Cw*0314	40	31			
Cw*0315	41	20	37	31	
Cw*0316	36	20	17	42	
Cw*040101	43				
Cw*040102	44				
Cw*0403	45	46			
Cw*0404	47	42			
Cw*0405	48				
Cw*0406	45	49	42		
Cw*0407	50	51			
Cw*0408	47	37			
Cw*0410	47				
Cw*0501	35	52	53		
Cw*0502	54				
Cw*0503	55				
Cw*0504	20	52	56		
Cw*0505	36	57	52	56	
Cw*0506	58				
Cw*0602	59	12	7		
Cw*0603	60	59	20	12	
Cw*0604	59	42			
Cw*0605	61	59	20	17	
Cw*0606	59	7			
Cw*0607	62				
Cw*0608	41	20	17	12	21
Cw*0609	59	57	12		
Cw*070101	63	64	65	66	
Cw*070102	67				
Cw*070201	8	64	66		

Table 12-3

Allele Number	Probe Number for Detection				
Cw*0703	68				
Cw*070401	69	66			
Cw*070402	70				
Cw*0705	71				
Cw*0706	72				
Cw*0707	38	35	40	42	
Cw*0708	73	40	42		
Cw*0709	38	35	41	40	42
Cw*0710	26	8	20	64	42
Cw*0711	69	66			
Cw*0712	69				
Cw*0713	8	74	64	42	
Cw*0714	30	64	40	42	
Cw*0715	8	21			
Cw*0716	38	40	42		
Cw*0717	8	75			
Cw*0718	76				
Cw*080101	42	53			
Cw*080102	30	57	77		
Cw*0802	52	53			
Cw*0803	78	7			
Cw*0804	52	42	56		
Cw*0805	51	57	52	56	
Cw*0806	79	78			
Cw*0807	52	64	56		
Cw*0808	80	56			
Cw*0809	81				
Cw*120201	30	5	7		
Cw*120202	30	5	6	7	
Cw*120203	63	5			
Cw*120301	51	82	7		



Table 12-4

Allele Number		Probe Number for Detection					
Cw*120302	83	12					
Cw*120401	84	51	35	85	20	17	12
Cw*120402	51	35	82	7			
Cw*1205	35	82	7				
Cw*1206	86						
Cw*1207	87						
Cw*1208	38	30	5	6	7		
Cw*140201	88	20	27				
Cw*140202	88	89	20				
Cw*1403	88	61	20	27			
Cw*1404	88	34	89	20	90		
Cw*1405	88	85	20	90			
Cw*150201	23	7					
Cw*150202	45	38	35	91	23	42	
Cw*1503	51	23	7				
Cw*1504	20	42	7				
Cw*150501	92						
Cw*150502	91	74	7				
Cw*1506	91	7					
Cw*1507	45	38	91	23	42		
Cw*1508	45	38	35	26	91	23	
Cw*1509	91	20	42				
Cw*1510	38	35	91	23	42		
Cw*1511	16	45	35	91	23	42	
Cw*1601	94	95					
Cw*1602	35	94	95				
Cw*160401	12	95					
Cw*1701	96						
Cw*1702	97						
Cw*1703	98						
Cw*1801	99	100					
Cw*1802	59	90	99				

(Example 7)

Probes for identification of HLA-DP allele

Extraction of DNA from 1 ml of human blood was performed using GFX Genomic Blood DNA Purification  
5 Kit from Amersham Biosciences in the same manner as in Example 1.

Next, quantitative PCR was carried out in the same manner as in Example 1 except that probes in the probe list 1 in Tables 13-1 to 13-3 or 14-1 to 14-3  
10 were used and 3  $\mu$ l of the mixed primers contains 1  $\mu$ l of respective solutions of the following primers (10 pmol/ $\mu$ l):

AAACACGGTCACCTCAGGGGGAT (SEQ ID NO: 245)

GGCCTGAGTGTGGTTGGAACG (SEQ ID NO: 246)

15 CCAGCTCGTAGTTGTGTCTGCA (SEQ ID NO: 247)

After PCR amplification, referring to Amp Plot and Dissociation curves on a display of 5700 software, and to the list in Table 15-1 for the probes in Table 13-1, or to the list in Tables 15-2 to 15-5 for the  
20 probes in Tables 13-2 to 13-3, it was identified as DPA1\*010301 and DPB1\*0901.

(Example 8)

Extraction of DNA from 1 ml of human blood was performed in the same way as in Example 1. PCR of  
25 human HLA-DP was then performed in the same manner as in Example 2 except that 6  $\mu$ l of the mixed primer consisting of 1  $\mu$ l each of the solutions containing

the following sequences at 10 pmol/ $\mu$ l respectively and 9  $\mu$ l of ultra pure water.

AAACACGGTCACCTCAGGGGGAT (SEQ ID NO: 245)

GGCCTGAGTGTGGTTGGAACG (SEQ ID NO: 246)

5 CCAGCTCGTAGTTGTGTCTGCA (SEQ ID NO: 247)

CCATGTGTCAACTTATGCC (SEQ ID NO: 248)

AGAATTACCTTTTCCAG (SEQ ID NO: 250)

AGAATTACGTTTTCAG (SEQ ID NO: 251)

At the same time, a DNA microarray was prepared  
10 to identify the allele in the specimen described  
above in the same manner as in Example 2, except that  
probes in Tables 14-1 and 14-2 were used to form the  
probe spots respectively.

Then, hybridization was performed using the  
15 above specimen and the prepared DNA microarray in the  
same manner as in Example 2. Fluorometry measurement  
was conducted with GenePix4000B (Axon). Referring to  
the list in Table 16-1 when the probes in Table 14-1  
were used, or to the list in Tables 16-2 to 16-5 when  
20 the probes in Table 14-2 were used, the sample was  
identified as DPA1\*010301 and DPB1\*0901.

#### Allele list

DPA1\*010301 :

25 ccaigtgtcaactttagccgcgtttgtacagacgcatagaccaacaggGgagttttagtttgaatttgaatgaAgat  
gagaigtgttctatgttggaatctggacaagaaggagaccgtctggcatctggaggagtttggccAagccttttccctttg  
aggctcagggcgggcctggcctaacattgctatattgaacaacaacttgaataccttgatccagcgttccaaccacac

tcaggccaccaac (SEQ ID NO: 1) ;

DPAI\*010302 :

gcgtttgtacagacgcatagaccaacaggAgagtttattgtttgaatttgatgaagatgagatgttctatgttgatc  
tggacaagaaggagaccgtctggcatctggaggagtttggccaagccttttccctttgaggctcagggcgggtggc  
5 taacattgctatattgaacaacaacttgaataccttgatccagcgttccaaccacactcaggccaccaac (SEQ  
ID NO: 2) ;

DPAI\*0104 :

gccgcgtttgtacagacgcatagaccaacaggggagtttattgtttgaatttgatgaCgatgagatgttctatgttg  
atctggacaagaaggagaccgtctggcatctggaggagtttggccaagccttttccctttgaggctcagggcgggt  
10 ggctaacattgctatattgaacaacaacttgaataccttgatccagcgttccaaccacactcaggccaccaac (SE  
Q ID NO: 3) ;

DPAI\*0105 :

gccgcgtttgtacagacgcatagaccaacaggggagtttattgtttgaatttgatgaagatgagatgttctatgttg  
atctggacaagaaggagaccgtctggcatctggaggagtttggccaagccttttccctttgaggctcagggcgggt  
15 ggctaacattgctatattgaacaacaacttgaataccttgatccagcgttccaaccacactcaggccgccaT (SE  
Q ID NO: 4) ;

DPAI\*0106 :

ccaatgtgtcaacttatgccgcgtttgtacagacgcatagaccaacaggggagtttattgtttgaatttgatgaagat  
gagcagtttctatgttgatctggataaAaaggagaccgtctggcatctggaggagtttggccaagccttttccctttg  
20 aggcctcagggcgggtggctaacattgctatattgaacaacaacttgaataccttgatccagcgttccaaccacac  
tcaggccaccaac (SEQ ID NO: 5) ;

DPAI\*0107 :

catgtgtcaacttatgccgcgtttgtacagacgcatagaccaacaggggagtttattgtttgaatttgatgaagatg  
agatgttctatgttgatctggacaagaaggagaccgtctggcatctggaggagtttggccaaAcccttttccctttga  
25 ggctcagggcgggtggctaacattgctatattgaacaacaacttgaataccttgatccagcgttccaaccacact  
caggccaccaac (SEQ ID NO: 6) ;

DPAI\*0108 :

ccaatgltgcaacttaagccgcgtttgtacagacgcatagaccaacaggggagtttaagtttgaatttgatgaCgat  
gagatgttctatgttggaatcaggacaagaaggagaccgtctggcatcaggaggagtttggccGagccctttccctttg  
aggctcagggcgggcaggcctaacaatgctatataatgaacaacaacttgaatacccttgatccagcgltccaaccacac  
tcaggccaccaac (SEQ ID NO: 7) ;

5 DPAI\*020101 :

ccaatgltgcaacttaagccgcgtttgtacagacCcatagaccaacaggggagtttaagtttgaatttgatgaagat  
gagcagttctatgttggaatcaggataaAaaggagaccgtctggcatcaggaggagtttggccgagccctttccctttg  
aggctcagggcgggcaggcctaacaatgctatataatgaacaacaacttgaatacccttgatccagcgltccaaccacac  
tcaggccgccaat (SEQ ID NO: 8) ;

10 DPAI\*020102 :

ccaatgltgcaacttaagccgcgtttgtacagacgcatagaccaacaggggagtttaagtttgaatttgatgaagat  
gagcagttctatgttggaatcaggataaAaaggagaccgtctggcatcaggaggagtttggccgagccctttccctttg  
aggctcagggcgggcaggcctaacaatgctatataatgaacaacaacttgaatacccttgatccagcgltccaaccacac  
tcaggccgccaat (SEQ ID NO: 9) ;

15 DPAI\*020103 :

ccaatgltgcaacttaagccgcgtttgtacagacgcatagaccaacaggggagtttaagtttgaatttgatgaagat  
gagcAgttctatgttggaatcaggacaagaaggagaccgtctggcatcaggaggagtttggccgagccctttccctttg  
aggctcagggcgggcaggcctaacaatgctatataatgaacaacaacttgaatacccttgatccagcgltccaaccacac  
tcaggccgccaat (SEQ ID NO: 10) ;

20 DPAI\*020104 :

gcgtttgtacaaacccatagaccaacaggggagtttaagtttgaatttgatgaagatgagcagttctatgttggaatc  
tggaataaAaaggagaccgtctggcatcaggaggagtttggccgagccctttccctttgaggctcagggcgggcaggc  
taacaatgctatataatgaacaacaacttgaatacccttgatccagcgltccaaccacac tcaggccgccaat (SEQ  
ID NO: 11) ;

25 DPAI\*020105 :

ccaatgltgcaacttaagccgcgtttgtacagacgcatagaccaacaggAgagtttaagtttgaatttgatgaagat  
gagcAgttctatgttggaatcaggacaagaaggagaccgtctggcatcaggaggagtttggccgagccctttccctttg

aggctcagggcgggctggctaacaatgctatattgaacaacaactlgaatacctlgaatccagcgtlccaaccacac  
tcaggccgccaat(SEQ ID NO: 1 2) ;

DPA1\*020106 :

ccaatgltgaacttatgccggtttgtacagacCcatagaccaacaggggagtttatgtttgaattlgaatgaaga  
5 gaggcagttctatgtggatctggataagaaggagaccgtctggcatctggaggagtttggccgagccttttcccttg  
aggctcagggcgggctggctaacaatgctatattgaacaacaactlgaatacctlgaatccagcgtlccaaccacac  
tcaggccgccaat(SEQ ID NO: 1 3) ;

DPA1\*020201 :

aacttatgccatgtttgtacagacccatagaccaacaggAgagtttatgtttgaattlgaatgaagaatgaggcagttc  
10 tatgtggatctggataagaaggagaccgtctggcatctggaggagtttggccgagccttttcccttgaggctcagg  
gcgggctggctaacaatgctatattgaacaacaactlgaatacctlgaatccagcgtlccaaccacacitcaggccgc  
caaT(SEQ ID NO: 1 4) ;

DPA1\*020202 :

ccaatgltgaacttatgccatgtttgtacagacCcatagaccaacaggAgagtttatgtttgaattlgaatgaaga  
15 gaggcagttctatgtggatctggataagaaggagaccgtctggcatctggaggagtttggccgagccttttcccttg  
aggctcagggcgggctggctaacaatgctatattgaacaacaactlgaatacctlgaatccagcgtlccaaccacac  
tcaggccgccaat(SEQ ID NO: 1 5) ;

DPA1\*020203 :

aatgltgaacttatgccatgtttgtacagacccatagaccaacaggggagtttatgtttgaattlgaatgaaga  
20 gaggcagttctatgtggatctggataagaaggagaccgtctggcatctggaggagtttggccgagccttttcccttg  
gctcagggcgggctggctaacaatgctatattgaacaacaactlgaatacctlgaatccagcgtlccaaccacac  
aggccgccaat(SEQ ID NO: 1 6) ;

DPA1\*0203 :

ccaatgltgaacttatgccggtttgtacagacCcatagaccaacaggggagtttatgtttgaattlgaatgaaga  
25 gaggatgttctatgtggatctggataagaaggagaccgtctggcatctggaggagtttggccgagccttttcccttg  
aggctcagggcgggctggctaacaatgctatattgaacaacaactlgaatacctlgaatccagcgtlccaaccacac  
tcaggccgccaat(SEQ ID NO: 1 7) ;

DPAI\*0301 :

gccatgtttgtacagacccatagaccaacaggggagtttatgtttgaatttgaatgaagatgagatgttctatgttg  
atctggacaagaaggagaccgtctggcatctggaggagtttggccaagccttttccctttagggctcagggcgggct  
ggctaacattgctatatCgaacaacaacttgaataccttgaatccagcgttccaaccacactcaggccaccaac (SE  
5 Q ID NO: 18) ;

DPAI\*0302 :

ccatgtgtcaacttatgccatgtttgtacagacccatagaccaacaggggagtttatgtttgaatttgaatgaagat  
gagatgttctatgttggatctggacaagaaggagaccgtctggcatctggaggagtttggccaagccttttccctttag  
aggctcagggcgggctggctaacattgctatatgaacaacaacttgaataccttgaatccagcgttccaaccacac  
10 ttagggccaccaac (SEQ ID NO: 19) ;

DPAI\*0401 :

gccgcgtttgtacagacgcatagaacaacaggagagtttatgtttgagtttgaatgaatgagatgttctatgttg  
atctggacaagaaggagaccgtctggcatctggaggagtttggccgagccttttccctttagggctcagggcgggct  
ggctaacattgctatatgaacaacaacttgaatacgcTatccagcgttccaaccacactcaggccgccaat (SE  
15 Q ID NO: 20) ;

DPBI\*010101 :

agaattacgtgtaccaggagcggcaggaatgtctacgcgtttaatgggacacagcgttccctggagagatatactta  
caaccgggaggagtagcgcgccttcgacagcgacgtgggAgagtccgggcggtgacggagctggggcggcctgct  
gcggagtagtgaacagccagaaggacatccctggaggagaagcgggcagtgccggacaggGtAtgcagacacaact  
20 acgagctggacgaggccgtgacctgcagcgccgagtc (SEQ ID NO: 21) ;

DPBI\*010102 :

aattacgtgtaccaggagcggcaggaatgtctacgcgtttaatgggacacagcgttccctggagagatatacttaca  
accgggaggagtagcgcgccttcgacagcgacgtgggAgagtccgggcggtgacggagctggggcggcctgctgc  
ggagtagtgaacagccagaaggacatccctggaggagaagcgggcagtgccggacaggGtAtgcagacacaacttac  
25 gagctggacgaggccgtgacctgcagcgccga (SEQ ID NO: 22) ;

DPBI\*020102 (SEQ ID NO: 23) :

agaattaccttttccaggagcggcaggaatgtctacgcgtttaatgggacacagcgttccctggagagatatactta

caaccgggaggagtlcgtgcgttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggccatga  
gAggagtlaciggaacagccagaaggacatccctggaggagGagcgggcagtgccggacaggatGtcagacacaact  
acgagctggGcggggcccatgacctgcagcgccgagtc (SEQ ID NO: 24) ;

DPBI\*020103 :

- 5 agaattaccctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatcta  
caaccgggaggagtlcgtgcgttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggccatgaC  
gaggagtlaciggaacagccagaaggacatccctggaggaggagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcggggcccatgacctgcagcgccgag (SEQ ID NO: 25) ;

DPBI\*020104 :

- 10 agaattaccctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatcta  
caaccgggaggagtlcgtgcgttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggccatga  
gaggagtlaciggaacagccagaaggacatccctggaggaggagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcggggcccatgacctgcagcgccga (SEQ ID NO: 26) ;

DPBI\*020105 :

- 15 agaattaccctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatcta  
caaccgggaAgagtlcgtgcgttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggccatga  
gaggagtlaciggaacagccagaaggacatccctggaggaggagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcggggcccatgacctgcagcgccgag (SEQ ID NO: 27) ;

DPBI\*020106 :

- 20 agaattaccctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatcta  
caaccgggaggagtlTgtgcgttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggccatga  
gaggagtlaciggaacagccagaaggacatccctggaggaggagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcggggcccatgacctgcagcgccgag (SEQ ID NO: 28) ;

DPBI\*0202 :

- 25 agaattaccctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatcta  
caaccgggaggagCtcgtgcgttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggccatgaG  
gcggagtlaciggaacagccagaaggacatccctggaggagGagcgggcagtgccggacaggatgtgcagacacaact



acgagciggcgggcccAtgacccigcagcgccgag (SEQ ID NO: 29) ;

DPB1\*030101 :

agaattacgtgtaccagTtacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagTtcgTgcgttcgacagcgacgtgggggagTtccggcggtgacggagctggggcgccTgat  
5 gaggaTtacTggaacagccagaaggacTtccTggaggagaagcgggcagTgccggacagggtatgcagacacaact  
acgagcTggacgaggccgtgacccTgcagcgccgagTcc (SEQ ID NO: 30) ;

DPB1\*030102 :

agaattacgtgtaccagTtacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagTtcgtgcgttcgacagcgacgtgggggagTtccggcggtgacggagctggggcgccTgat  
10 gaggacTtacTggaacagccagaaggacTtccTggaggagaagcgggcagTgccggacagggtatgcagacacaact  
acgagcTggacgaggccgtgacccTAcagcgccgag (SEQ ID NO: 31) ;

DPB1\*0401 :

agaattaccTtttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagTtcgTgcgttcgacagcgacgtgggggagTtccggcggtgacggagctggggcgccTgct  
15 gcggagTtacTggaacagccagaaggacatccTggaggagaagcgggcagTgccggacaggatGtcagacacaact  
acgagcTggGcggggcccatgacccTgcagcgccgagTcc (SEQ ID NO: 32) ;

DPB1\*0402 :

agaattaccTtttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagTtcgTgcgttcgacagcgacgtgggggagTtccggcggtgacggagctggggcgccTgat  
20 gAggagTtacTggaacagccagaaggacatccTggaggagaagcgggcagTgccggacaggatGtcagacacaact  
acgagcTggGcggggcccatgacccTgcagcgccgagTcc (SEQ ID NO: 33) ;

DPB1\*0501 :

agaattaccTtttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagTtcgTgcgttcgacagcgacgtgggggagTtccggcggtgacggagctggggcgccTgaG  
25 gcggagTtacTggaacagccagaaggacatccTggaggagaagcgggcagTgccggacaggatGtcagacacaact  
acgagcTggacgaggccgtgacccTgcagcgccgag (SEQ ID NO: 34) ;

DPB1\*0601 :

agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatctacaaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgatgaggaCtactggaacagccagaaggacCtccitggaggagGagcgggcagtgccggacaggatGtgcagacacaactacgagctggacgaggccgtgacccitgcag (SEQ ID NO: 35) ;

5 DPB1\*0801 :

cttttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatctacaaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgatgAggagtaclggaacagccagaaggacatccitggaggagGagcgggcagtgccggacagggtatgcagacacaactacgagctggacgaggccgtgacccitgcag (SEQ ID NO: 36) ;

10 DPB1\*0901 :

agaattacgtgcaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatctacaaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgatgaggaCtactggaacagccagaaggacatccitggaggagGagcgggcagtgccggacagggtatgcagacacaactacgagctggacgaggccgtgacccitgcagcgccgag (SEQ ID NO: 37) ;

15 DPB1\*1001 :

agaattacgtgcaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatctacaaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgatgAggagttactggaacagccagaaggacatccitggaggagGagcgggcagtgccggacagggtatgcagacacaactacgagctggacgaggccgtgacccitgcagcgccgag (SEQ ID NO: 38) ;

20 DPB1\*110101 :

gtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatctacaaccggCaggagttacgcgcgttcgacagcgacgtgggagagttccgggcggtgacggagctggggcggcctgtcgtcggagtaclggaacagccagaaggacctccitggaggagaggcgggcagtgccggacaggatgtgcagacacaactacgagctggacgaggccgtgacccitgcag (SEQ ID NO: 39) ;

25 DPB1\*110102 :

agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatctacaacAggcaggagttacgcgcgttcgacagcgacgtgggagagttccgggcggtgacggagctggggcggcctgct

gcggagtlactggaacagccagaaggacctccctggaggagaggcgggcagtgccggacaggatgtgcagacacaact  
acgagctggacgaggccgtgacctgcag (SEQ ID NO: 40) ;

DPB1\*1301 :

agaattacgtgtaccagtTaccgcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctta  
5 caaccgggaggagtlacgcgcgttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggcctgct  
gcggagtlactggaacagccagaaggacatccctggaggagGagcgggcagtgccggacaggAtatgcagacacaact  
acgagctggacgaggccgtgacctgcag (SEQ ID NO: 41) ;

DPB1\*1401 :

agaattacgtgcaccagtTaccgcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctta  
10 caaccgggaggagtlcgTgcgcttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggcctgat  
gaggaCtactggaacagccagaaggacCtccctggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagctggacgaggccgtgacctgcag (SEQ ID NO: 42) ;

DPB1\*1501 :

agaattacgtgtaccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctta  
15 caaccggCaggagtlacgcgcgttcgacagcgacgtgggagagtlccgggcggtgacggagctggggcggcctgct  
gcggagtlactggaacagccagaaggacctccctggaggagaggcgggcagtgccggacaggatgtgcagacacaact  
acgagctggctggggcccAtgacctgcagcgccgag (SEQ ID NO: 43) ;

DPB1\*1601 :

agaattaccttttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctta  
20 caaccgggaggagtlcgTgcgcttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggcctgat  
gAggagtlactggaacagccagaaggacatccctggaggagGagcgggcagtgccggacaggatGtgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 44) ;

DPB1\*1701 :

agaattacgtgcaccagtTaccgcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctta  
25 caaccgggaggagtlcgTgcgcttcgacagcgacgtgggggagtlccgggcggtgacggagctggggcggcctgat  
gaggaCtactggaacagccagaaggacatccctggaggagGagcgggcagtgccggacaggatGtgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 45) ;

DPBI\*1801 :

giglaccagggacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatatacacaaccggg  
aggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgaGAggagla  
ctggaacagccagaaggacatcciggaggagaagcgggcagtgccggacaggatgtgcagacacaactacgagctg  
5 gTcgggcccattgacctgcag (SEQ ID NO: 46) ;

DPBI\*1901 :

agaattacctttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatataccta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgaG  
gcggagttaciggaacagccagaaggacatcciggaggagGagcgggcagtgccggacaggAatgcagacacaact  
10 acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 47) ;

DPBI\*200101 :

agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatataccta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgat  
gaggactaciggaacagccagaaggacCtcciggaggagaagcgggcagtgccggacaggatGtgcagacacaact  
15 acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 48) ;

DPBI\*200102 :

agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatataccta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgat  
gaggactaciggaacagccagaaggaccCtcciggaggagaagcgggcagtgccggacaggatGtgcagacacaact  
20 acgagctggacgaggccgtgacctgcagcgTcga (SEQ ID NO: 49) ;

DPBI\*2101 :

agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatataccta  
caaccgggaggagCtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgaG  
gcggagttaciggaacagccagaaggacatcciggaggagGagcgggcagtgccggacaggatGtgcagacacaact  
25 acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 50) ;

DPBI\*2201 :

agaattacctttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatataccta

caaccgggaggagCtcgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgcc tgaG  
gcggagtlac tggaaacagccagaaggacatcc tggaggagGagcgggcag tccgggacaggatG tgcagacacaact  
acgagctggacgaggccgtgaccc tgcagcgccgag (SEQ ID NO: 5 1) ;

DPBI\*2301 :

- 5 agaattacc ttttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatacatctla  
caaccgggaggagttcgTgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgcc tgc t  
gcggagtlac tggaaacagccagaaggacatcc tggaggagaagcgggcag tccgggacaggatG tgcagacacaact  
acgagctggGcggggcccatgaccc tgcagcgccgag (SEQ ID NO: 5 2) ;

DPBI\*2401 :

- 10 agaattacc ttttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatacatctla  
caaccgggaggagttcgTgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgcc tgaG  
gcggagtlac tggaaacagccagaaggacatcc tggaggagaagcgggcag tccgggacaggatG tgcagacacaact  
acgagctgggcggggccAtgaccc tgcagcgccgag (SEQ ID NO: 5 3) ;

DPBI\*2501 :

- 15 agaattacgtg taccag tTaccggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatacatctla  
caaccgggaggagttcgTgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgcc tga t  
gAggagtlac tggaaacagccagaaggacC tcc tggaggagaagcgggcag tccgggacagggtatgcagacacaact  
acgagctggacgaggccgtgaccc tgcagcgccgag (SEQ ID NO: 5 4) ;

DPBI\*260101 :

- 20 g t g t a c c a g t t a c g g c a g g a a t g c t a c g c g t t a a t g g g a c a c a g c g c t t c c t g g a g a g a t a c a t c t a c a a c c g g g  
a g g a g t a c g c g c g c t t c g a c a g c g a c g t g g g g a g t t c c g g g c g g t g a c g g a g c t g g g c g g c c t g c t g c g g a g t a  
c t g g a a c a g c c a g a a g g a c a t c c t g g a g g a g a a g c g g g c a g t g c c g g a c a g A g t a t g c a g a c a c a a c t a c g a g c t g  
g a c g a g g c c g t g a c c c t g c a g c g c c g a g (SEQ ID NO: 5 5) ;

DPBI\*260102 :

- 25 g t g t a c c a g t t a c g g c a g g a a t g c t a c g c g t t a a t g g g a c a c a g c g c t t c c t g g a g a g a t a c a t c t a c a a c c g g g  
a g g a g t a c g c g c g c t t c g a c a g c g a c g t g g g g a g t t c c g g g c g g t g a c g g a g c t g g g c g g c c t g c t g c g g a g t a  
c t g g a a c a g c c a g a a g g a c a t c c t g g a g g a g a a g c g g g c a g t g c c g g a c a g g g t a t g c a g a c a c a a c t a c g a g c t g

gacgaggccgtgacctgcagcgccga (SEQ ID NO: 56) ;

DPB1\*2701 :

agaattacgtgtaccagTaccgcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatctla  
caaccgggaggagTaccgcgcttcgacagcgacgtgggggagTccgggcggtgacggagctggggcgccTgct  
5 gcggagTactggaacagccagaaggacatccTggaggagaagcgggcagTgccggacaggatGtcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 57) ;

DPB1\*2801 :

agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatctla  
caaccgggaggagTtcgcgcttcgacagcgacgtgggggagTccgggcggtgacggagctggggcgccTgat  
10 gAggagTactggaacagccagaaggacCtccTggaggagaagcgggcagTgccggacaggatGtcagacacaact  
acgagctggTcggggccatgacctgcagcgccgag (SEQ ID NO: 58) ;

DPB1\*2901 :

agaattacgtgtaccagTaccgcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatctla  
caaccgggaggagTtcgtgcgcttcgacagcgacgtgggggagTccgggcggtgacggagctggggcgccTgat  
15 gaggaCtactggaacagccagaaggacCtccTggaggagGagcgggcagTgccggacaggatGtcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 59) ;

DPB1\*3001 :

agaattacgtgtaccagTaccgcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatctla  
caaccgggaggagTtcgtgcgcttcgacagcgacgtgggggagTccgggcggtgacggagctggggcgccTgaG  
20 gcggagTactggaacagccagaaggacatccTggaggagGagcgggcagTgccggacaggatGtcagacacaact  
acgagctggacgaggccgtgacctgcag (SEQ ID NO: 60) ;

DPB1\*3101 :

agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatctla  
caaccgggaggagTtcgcgcttcgacagcgacgtgggggagTccgggcggtgacggagctggggcgccTgct  
25 gcggagTactggaacagccagaaggaccTccTggaggagaagcgggcagTgccggacaggatGtcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 61) ;

DPB1\*3201 :

agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatcta  
caaccgggaggagttcgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgat  
gaggTgtacttgaacagccagaaggacatccitggaggaggagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcgggcccattgacctgcagcgccgag (SEQ ID NO: 6 2) ;

5 DPBI\*3301 :

agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatcta  
caaccgggaggagttcgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgct  
gcggagtacttgaacagccagaaggacatccitggaggagGagcgggcagtgccggacaggatGtgcagacacaact  
acgagctggGcgggcccattgacctgcag (SEQ ID NO: 6 3) ;

10 DPBI\*3401 :

agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatcta  
caaccgggaggagctcgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgct  
gcggagtacttgaacagccagaaggacctccitggaggagaagcgggcattgccggacaggatGtgcagacacaact  
acgagctggGcgggcccAttgacctgcag (SEQ ID NO: 6 4) ;

15 DPBI\*3501 :

agaattacgtgtaccagtTaccgcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatcta  
caaccgggaggagttcgtTgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgat  
gaggactacttgaacagccagaaggacatccitggaggagaagcgggcagtgccggacaggatGtgcagacacaact  
acgagctggacgaggccgtgacctgcag (SEQ ID NO: 6 5) ;

20 DPBI\*3601 :

agaattacgtgtaccagtTaccgcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatcta  
caaccgggaggagCtcgtTgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgaG  
gcggagtacttgaacagccagaaggacatccitggaggagaagcgggcagtgccggacaggatGtgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 6 6) ;

25 DPBI\*3701 :

gtgtaccagttaccgcaggaatgctacgcgtttaatgggacacagcgcttccitggagagatacatctacaaccggg  
aggagttcgtTgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgatGaggagta

ctggaacagccagaaggacatccctggaggagGagcgggcagtgccggacagggtatgcagacacaactacgagcig  
gacgaggccgtgacccctgcagcgccgag (SEQ ID NO: 6 7) ;

DPBI#3801 :

cttttccaggacggcaggaatgctacCcgittaatgggacacagcgcttccctggagagatacatctacaaccggg  
5' aggagctcgtgcgcttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggcctgaggcggagta  
ctggaacagccagaaggacatccctggaggagaagcgggcagtgccggacaggatgtgcagacacaactacgagcig  
gacgaggccgtgacccctgcag (SEQ ID NO: 6 8) ;

DPBI#3901 :

agaattaccitttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctia  
10 caaccgggaggagtagcgcgcttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggcctgct  
gcggagtagctggaacagccagaaggacatccctggaggagaagcgggcagtgccggacaggatGtgacacacaact  
acgagctggGcgggcccattgacccctgcagcgccga (SEQ ID NO: 6 9) ;

DPBI#4001 :

agaattaccitttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctia  
15 caaccgggaggagtagcgcgcttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggcctgct  
gcggagtagctggaacagccagaaggacatccctggaggagaagcgggcagtgccggacaggatgtgcagacacaact  
acgagctggTcgggcccattgacccctgcagcgccga (SEQ ID NO: 7 0) ;

DPBI#4101 :

aattaccitttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctia  
20 accgggaggagttcgtgcgcttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggcctgataga  
ggagtagctggaacagccagaaggacTtccctggaggagGagcgggcagtgccggacaggatgtgcagacacaactac  
gagctgggcgggcccattgacccctgcagcgccga (SEQ ID NO: 7 1) ;

DPBI#4401 :

agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatacatctia  
25 caaccgggaggagCtcgtgcgcttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggcctgatga  
gaggactaciggaacagccagaaggacTtccctggaggagGagcgggcagtgccggacagggtatgcagacacaact  
acgagctggacgaggccgtgacccctgcagcgccgag (SEQ ID NO: 7 2) ;



DPBI\*4501 :

glgcaccagtlacggcaggaatgctacgcgtttaaaggacacagcgcttccaggagagatacatctacaaccggg  
aggagltcgTgcgttcgacagcgacgtgggggagltccgggcggtagcgagctggggcgccctgatgAggagla  
ctlggaacagccagaaggacCtccaggaggagaagcgggcagtgccggacagggaatgcagacacaactacgagctg  
5 gacgaggccgtgaccctgcag (SEQ ID NO: 7 3) ;

DPBI\*4601 :

agaattacctttccaggacggcaggaatgctacgcgtttaaaggacacagcgcttccaggagagatacatctaca  
caaccgggaggagltcgltcgcttcgacagcgacgtgggggagltccgggcggtagcgagctggggcgccctgat  
gaggaCtactlggaacagccagaaggacatccaggaggagGagcgggcagtgccggacaggatgtgcagacacaact  
10 acgagctgggcgggcccAtgaccctgcagcgccgag (SEQ ID NO: 7 4) ;

DPBI\*4701 :

agaattacctttccaggacggcaggaatgctacgcgtttaaaggacacagcgcttccaggagagatacatctaca  
caaccgggaggagltcgltcgcttcgacagcgacgtgggggagltccgggcggtagcgagctggggcgccctgaG  
gcggagtlactlggaacagccagaaggacatccaggaggagGagcgggcagtgccggacaggatgtgcagacacaact  
15 acgagctgggcgggcccAtgaccctgcagcgccgag (SEQ ID NO: 7 5) ;

DPBI\*4801 :

aattacctttccaggacggcaggaatgctacgcgtttaaaggacacagcgcttccaggagagatacatctaca  
accgggaggagCtctgtcgcttcgacagcgacgtgggggagltccgggcggtagcgagctggggcgccctgatgA  
ggagtlactlggaacagccagaaggacatccaggaggaggagcgggcagtgccggacaggatgtgcagacacaactac  
20 gagctggGcgggcccAtgaccctgcag (SEQ ID NO: 7 6) ;

DPBI\*4901 :

aattacctttccaggacggcaggaatgctacgcgtttaaaggacacagcgcttccaggagagatacatctaca  
accgggaggagtlacgcgcgttcgacagcgacgtgggggagltccgggcggtagcgagctggggcgccctgatgA  
ggagtlactlggaacagccagaaggacatccaggaggagaagcgggcagtgccggacaggatGlgcagacacaactac  
25 gagctggGcgggcccAtgaccctgcag (SEQ ID NO: 7 7) ;

DPBI\*5001 :

aattacgtgtaccaggacggcaggaatgctacgcgtttaaaggacacagcgcttccaggagagatacatctaca

accgggaggagltcgTgcgcltcgacagcgacgtgggggagltccgggcggtagcggagciggggcgccigtatga  
ggaClactlggaacagccagaaggacCtccTggaggagaagcgggcagtgccggacagggtatgcagacacaactac  
gagcTggacgaggccgtgacctgcag (SEQ ID NO: 78) ;

DPB1#5101 :

- 5 agaattaccitltccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatatactta  
caaccgggaggagltcgTgcgcltcgacagcgacgtgggggagltccgggcggtagcggagciggggcgccigtat  
gAggagltactlggaacagccagaaggacatccTggaggagaagcgggcagtgccggacaggatGtcagacacaact  
acgagcTggGcgggcccattgacctgcagcgccgag (SEQ ID NO: 79) ;

DPB1#5201 :

- 10 agaattacgtgtaccagtTacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatatactta  
caaccgggaggagltcgTgcgcltcgacagcgacgtgggggagltccgggcggtagcggagciggggcgccigtct  
gcggagltactlggaacagccagaaggacCtccTggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagcTggacgaggccgtgacctgcag (SEQ ID NO: 80) ;

DPB1#5301 :

- 15 agaattaccitltccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatatactta  
caaccgggaggagltacgcgcgttcgacagcgacgtgggggagltccgggcggtagcggagciggggcgccigtat  
gAggagltactlggaacagccagaaggacatccTggaggagaagcgggcagtgccggacaggatgtgcagacacaact  
acgagcTggTcgggcccattgacctgcag (SEQ ID NO: 81) ;

DPB1#5401 :

- 20 agaattacgtgcaccagtTacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatatactta  
caaccgggaggagltcgtgcgttcgacagcgacgtgggggagltccgggcggtagcggagciggggcgccigtatG  
gcggagltactlggaacagccagaaggacatccTggaggagGagcgggcagtgccggacagggtatgcagacacaact  
acgagcTggacgaggccgtgacctgcag (SEQ ID NO: 82) ;

DPB1#5501 :

- 25 agaattacgtgcaccagtTacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatatactta  
caaccgggaggagltcgTgcgcltcgacagcgacgtgggggagltccgggcggtagcggagciggggcgccigtct  
gcggagltactlggaacagccagaaggacatccTggaggagGagcgggcagtgccggacaggatGtcagacacaact

acgagctggacgaggccgtgacccigcag (SEQ ID NO: 8 3) ;

DPBI\*5601 :

ggtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagagatacatctacaaccggg  
aggagttcgcgcgcttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggccgtcgtcgggagta  
5 cttgaacagccagaaggacCtccaggaggagaagcgggcagtgccggacagggtatgcagacacaactacgagctg  
gacgaggccgtgacccigcag (SEQ ID NO: 8 4) ;

DPBI\*5701 :

ctttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagagatacatctacaaccggg  
aggagttcgTcgcttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggccgtgatgaggaCta  
10 cttgaacagccagaaggacCtccaggaggagaagcgggcagtgccggacagggtatgcagacacaactacgagctg  
gacgaggccg (SEQ ID NO: 8 5) ;

DPBI\*5801 :

aattacgtgcaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagagatacatctaca  
accgggaggagCtcgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggccgtcgtc  
15 ggagttacttgaacagccagaaggacatccaggaggagGagcgggcagtgccggacaggatGtcagacacaactac  
gagctggacgaggccgtgacccigcag (SEQ ID NO: 8 6) ;

DPBI\*5901 :

agaattacctttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagagatacatctaca  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggccgtgat  
20 gAggagttacttgaacagccagaaggacCtccaggaggagaagcgggcagtgccggacaggatGtcagacacaact  
acgagctggGcgggcccattgacccigcag (SEQ ID NO: 8 7) ;

DPBI\*6001 :

agaattacctttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagagatacatctaca  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagctggggcggccgtgat  
25 gaggagttacttgaacagccagaaggacaAccaggaggagaagcgggcagtgccggacaggatGtcagacacaact  
acgagctgggGcgggcccattgacccigcag (SEQ ID NO: 8 8) ;

DPBI\*6101N :

agaattacgtgaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagagatacatctacaaccgggaggagttcgtgcgcttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgatgaggactactggaacagccagaaggacctccctgTaggagaagcgggcagtgccggacagggtatgcagacacaactacgagctggacgaggccgtgacctgcagcgc (SEQ ID NO: 89) ;

## 5 DPB1\*6201 :

agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagagatacatctacaaccgggaggagCtcgtgcgcttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgctgaggagttactggaacagccagaaggacatccctggaggagaagcgggcagtgccggacaggatGtcagacacaactacgagctggTcgggccaatgacctgcag (SEQ ID NO: 90) ;

## 10 DPB1\*6301 :

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## 15 DPB1\*6401N :

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## 20 DPB1\*6501 :

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## 25 DPB1\*6601 :

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gcggagtac tggacagccagaaggacatcc tggaggagaagcgggcag tgcggacaggatG tgcagacacaact  
acgagctggGcggggcccatgacctgcagcgccgag (SEQ ID NO: 9 4) ;

DPBI\*6701 :

agaattacgtgcaccag tTacggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatatactta  
5 caaccgggaggag tTcgtgccttcgacagcgacgtgggggag tTccgggcggtgacggagctggggcgcc tgc t  
gcggagtac tggacagccagaaggacC tcc tggaggagaagcgggcag tgcggacagggtatgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 9 5) ;

DPBI\*6801 :

agaattaccttttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatatactta  
10 caaccgggaggag tTcgtgccttcgacagcgacgtgggggag tTccgggcggtgacggagctggggcgcc tga t  
gAggag tTac tggacagccagaaggacatcc tggaggagaagcgggcag tgcggacagggtatgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccga (SEQ ID NO: 9 6) ;

DPBI\*6901 :

agaattacgtgtaccag tTacggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatatactta  
15 caaccgggaggag tTcgtgccttcgacagcgacgtgggggag tTccgggcggtgacggagctggggcgcc tga t  
gaggaC tTactggacagccagaaggacctcc tggaggagaGcgggcag tgcggacaggatgtgcagacacaact  
acgagctggacgaggccgtgacc (SEQ ID NO: 9 7) ;

DPBI\*7001 :

aattacgtggaccag tTacggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatatacttaca  
20 accgggaggag tTcgtgccttcgacagcgacgtgggggag tTccgggcggtgacggagctggggcgcc tga tga  
ggaC tTactggacagccagaaggacC tcc tggaggagaagcgggcag tgcggacagggtatgcagacacaactac  
gagctggacgaggccgtgacctgcag (SEQ ID NO: 9 8) ;

DPBI\*7101 :

aattaccttttccagggacggcaggaatgctacgcgtttaatgggacacagcgcttcc tggagagatatacttaca  
25 accgggaggag tTcgtgccttcgacagcgacgtgggggag tTccgggcggtgacggagctggggcgcc tgc tgc  
ggag tTactggacagccagaaggacatcc tggaggagGagcgggcag tgcggacaggatG tgcagacacaactac  
gagctggGcggggcccatgacctgcag (SEQ ID NO: 9 9) ;

DPB1\*7201 :

aattaccititccaggacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatacaictaca  
accgggaggagttcgcgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccctgctgc  
ggagttactggaacagccagaaggacCtcciggaggagaagcgggcagtgccggacaggatGtcagacacaactac.

5 gagctggGcgggcccattgacctgcag (SEQ ID NO: 1 0 0) ;

DPB1\*7301 :

aattaccititccaggacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatacaictaca  
accgggaggagttcgctgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccctgatGA  
ggagttactggaacagccagaaggacCtcciggaggagaagcgggcagtgccggacagggtatgcagacacaactac

10 gagctggGcgggcccattgacctgcag (SEQ ID NO: 1 0 1) ;

DPB1\*7401 :

gtglaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatacaictacaaccggC  
aggagttacgcgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccctgctgcggagta  
ctggaacagccagaaggaccttcciggaggagaggcgggcagtgccggacaggatgtgcagacacaactacgagctg

15 gtccggcccAtgacctgcag (SEQ ID NO: 1 0 2) ;

DPB1\*7501 :

ctitccaggacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatacaictacaaccggg  
aggagttcgTgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccctgatGaggagta  
ctggaacagccagaaggacatcciggaggagaagcgggcagtgccggacagggtatgcagacacaactacgagctg

20 gGcgggcccattgacctgcag (SEQ ID NO: 1 0 3) ;

DPB1\*7601 :

agaattacgtgcaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatacaicta  
caaccgggaggagttcgcgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccctgat  
gaggaCttactggaacagccagaaggacCtcciggaggagaagcgggcagtgccggacagggtatgcagacacaact

25 acgagctggacgaggccgtgacctgcag (SEQ ID NO: 1 0 4) ;

DPB1\*7701 :

agaattaccititccaggacTgcaggaatgctacgcgtttaatgggacacagcgcttcciggagagatacaicta

caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcggcctgat  
gaggagttactggaacagccagaaggacatccctggaggagaagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcgggcccattgacctgcagcgccgag (SEQ ID NO: 105) ;

DPB1\*7801 :

- 5 agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatatactta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcggcctgat  
gaggacttactggaacagccagaaggacctccctggaggagaagcgggcagtgctggacagggtatgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 106) ;

DPB1\*7901 :

- 10 agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatatactta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcggcctgat  
gaggagttactggaacagccagaaggacatccctggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag (SEQ ID NO: 107) ;

DPB1\*8001 :

- 15 agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatatactta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcggcctgat  
gaggacttactggaacagccagaaggacatccctggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagctgggcgggcccattgacctgcagcgccgag (SEQ ID NO: 108) ;

DPB1\*8101 :

- 20 agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatatactta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcggcctgat  
gaggagttactggaacagccagaaggacatccctggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagctggcgggcccattgacctgcagcgccgag (SEQ ID NO: 109) ;

DPB1\*8201 :

- 25 agaattacctttccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccctggagagatatactta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcggcctgat  
gaggagttactggaacagccagaaggacatccctggaggagaagcgggcagtgccggacagggtatgcagacacaact

acgagctgggcgggcccAtgacctgcagcAccgag(SEQ ID NO: 1 1 0) ;

DPBI\*8301 :

agaattaccitlccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagatacatctta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgat

5 gaggagtagtggaacagccagaaggacTtccaggaggagaagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcgggcccAtgacctgcagcgccgag(SEQ ID NO: 1 1 1) ;

DPBI\*8401 :

agaattaccitlccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagatacatctta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgaG

10 gAggagtagtggaacagccagaaggacatccaggaggagaagcgggcagtgccggacaggatgtgcagacacaact  
acgagctggacgaggccgtgacctgcagcgccga(SEQ ID NO: 1 1 2) ;

DPBI\*8501 :

agaattacgtgtaccagtTacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagatacatctta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgct

15 gcgagtagtggaacagccagaaggacatccaggaggagaagcgggcagtgccggacaggatgtgcagacacaact  
acgagctggacgaggccgtgacctgcagcAccgag(SEQ ID NO: 1 1 3) ;

DPBI\*8601 :

gaattacgtgcaccagtTacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagatacatcttac  
aaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgatg

20 aggaCtagtggaacagccagaaggacatccaggaggagGagcgggcagtgccggacaggatgtgcagacacaacta  
cgagctgggcgggcccAtgacctgcagcgccga(SEQ ID NO: 1 1 4) ;

DPBI\*8701 :

agaattacgtgtaccagtTacggcaggaatgctacgcgtttaatgggacacagcgcttccaggagatacatctta  
caaccgggaggagttcgtgcgttcgacagcgacgtgggggagttccgggcggtagcgagctggggcgccctgct

25 gcgagtagtggaacagccagaaggacCtccaggaggagaagcgggcagtgccggacaggatGtagcagacacaact  
acgagctggacgaggccgtgacctgcagcgccgag(SEQ ID NO: 1 1 5) ;

DPBI\*8801 :



agaattacgtgtaccagtTaccggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagttcgTgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccTgat  
gaggaCtactggaacagccagaaggacatccTggaggagGagcgggcagtgccggacagggtatgcagacacaact  
acgagctggacgaggccgtgacccTgcagcgccgag (SEQ ID NO: 116) ;

5 DPB1\*8901 :

agaattacgtgtaccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagttacgcgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccTgct  
gcggagttactggaacagccagaaggacatccTggaggagaagcgggcagtgccggacaggatGtcagacacaact  
acgagctggacgaggccgtgacccTgcagcgccgag (SEQ ID NO: 117) ;

10 DPB1\*9001 :

agaattacgtgtaccaggacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagttcgTgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccTgct  
gcggagttactggaacagccagaaggacatccTggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagctggacgaggccgtgacccTgcagcgccgag (SEQ ID NO: 118) ;

15 DPB1\*9101 :

agaattacgtgtaccagttacggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagttcgTgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccTgat  
gaggaCtactggaacagccagaaggacCtccTggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagctggacgaggccgtgacccTgcagcgccgag (SEQ ID NO: 119) ;

20 DPB1\*9201 :

agaattacgtgtaccagtTaccggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagttcgTgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccTgat  
gaggaCtactggaacagccagaaggacCtccTggaggagaagcgggcagtgccggacagggtatgcagacacaact  
acgagctggacgaggccgtgacccTgcagcgccgag (SEQ ID NO: 120) ;

25 DPB1\*9301 :

agaattacgtgtaccagtTaccggcaggaatgctacgcgtttaatgggacacagcgcttccTggagagatacatcta  
caaccgggaggagttcgTgcgttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccTgat

gAggagtagctggaacagccagaaggacatccaggaggagGagcgggcagtgccggacaggatGtgcagacacaact  
acgagctggacgaggccgtagacctgcagcgccgag (SEQ ID NO: 1 2 1) ;

DPB1\*9601 :

agaattaccltttccaggacggcaggaatgctacgcgtttaaaggacacagcgcttccaggagagatacatcta  
5 caaccgggaggagtagcgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgccctgct  
cgaggtagctggaacagccagaagCacatccaggaggagaagcgggcagtgccggacaggatgtgcagacacaact  
acgagctgggcgggcccattgacctgcagcgccgag (SEQ ID NO: 1 2 2) ;

In the following, Probe lists DP1-DP4 are shown  
10 in Tables 13-1 to 13-3 and Tables 14-1 to 14-3  
respectively. Probe-Allele Lists DP1-4 are shown in  
Tables 15-1 to 15-5 and Tables 16-1 to 16-5.

Table 13-1

Probe No.	Base Sequence
0	acg cat aga cca aca ggG ( SEQ ID No: 123)
1	ag ttt atg ttt gaa ttt gat gaA ( SEQ ID No: 124)
2	t ctg gag gag ttt ggc cA ( SEQ ID No: 125)
3	g acg cat aga cca aca ggA ( SEQ ID No: 126)
4	g ttt atg ttt gaa ttt gat gaC ( SEQ ID No: 127)
5	cac act cag gcc gcc aaT ( SEQ ID No: 128)
6	ttc tat gtg gat ctg gat aaA ( SEQ ID No: 129)
7	ctg gag gag ttt ggc caa A ( SEQ ID No: 130)
8	ctg gag gag ttt ggc cG ( SEQ ID No: 131)
9	gcc gcg ttt gta cag acC ( SEQ ID No: 132)
10	t gaa ttt gat gaa gat gag cA ( SEQ ID No: 133)
11	ag ttc tat gtg gat ctg gaT ( SEQ ID No: 134)
12	g acc cat aga cca aca ggA ( SEQ ID No: 135)
13	t gcc atg ttt gta cag acC ( SEQ ID No: 136)
14	at gtg tca act tat gcc aT ( SEQ ID No: 137)
15	ctg gct aac att gct ata tC ( SEQ ID No: 138)
16	cat gtg tca act tat gcc aT ( SEQ ID No: 139)
17	aac aac aac ttg aat atc gcT ( SEQ ID No: 140)

Table 13-2

Probe No.	Base Sequence
0	gca gtg ccg gac agg G (SEQ ID No: 141)
1	ca gtg ccg gac agg gTA (SEQ ID No: 142)
2	tc gac agc gac gtg gGA (SEQ ID No: 143)
3	c aac cgg gag gag ttc gT (SEQ ID No: 144)
4	ctg ggg cgg cct gat gA (SEQ ID No: 145)
5	g gac atc ctg gag gag G (SEQ ID No: 146)
6	ca gtg ccg gac agg atG (SEQ ID No: 147)
7	a cac aac tac gag ctg gG (SEQ ID No: 148)
8	g ctg ggg cgg cct gaC (SEQ ID No: 149)
9	ag gag gag cgg gca gtT (SEQ ID No: 150)
10	ga tac atc tac aac cgg gaA (SEQ ID No: 151)
11	c tac aac cgg gag gag tT (SEQ ID No: 152)
12	c tac aac cgg gag gag C (SEQ ID No: 153)
13	g ctg ggg cgg cct gaG (SEQ ID No: 154)
14	gag ctg ggc ggg ccc A (SEQ ID No: 155)
15	ag aat tac gtg tac cag tT (SEQ ID No: 156)
16	gg cgg cct gat gag gaC (SEQ ID No: 157)
17	gg aac agc cag aag gac C (SEQ ID No: 158)
18	ac gag gcc gtg acc ctA (SEQ ID No: 159)
19	c tac aac cgg gag gag tT (SEQ ID No: 160)
20	aac cgg gag gag ctc gT (SEQ ID No: 161)
21	g gac ctc ctg gag gag G (SEQ ID No: 162)
22	ag aat tac gtg cac cag tT (SEQ ID No: 163)
23	aga tac atc tac aac cgg C (SEQ ID No: 164)
24	g gag aga tac atc tac aac A (SEQ ID No: 165)
25	g gca gtg ccg gac agg A (SEQ ID No: 166)
26	gag ctg gtc ggg ccc A (SEQ ID No: 167)
27	ga cac aac tac gag ctg gT (SEQ ID No: 168)
28	cc gtg acc ctg cag cgT (SEQ ID No: 169)
29	gg gca gtg ccg gac agA (SEQ ID No: 170)
30	g gag gag aag cgg gca T (SEQ ID No: 171)

Table 13-3

Probe No.	Base Sequence
31	ggg cgg cct gat gag gT (SEQ ID No: 172)
32	ga cgg cag gaa tgc tac C (SEQ ID No: 173)
33	gg aac agc cag aag gac T (SEQ ID No: 174)
34	g gac ttc ctg gag gag G (SEQ ID No: 175)
35	gg aac agc cag aag gac aA (SEQ ID No: 176)
36	gc cag aag gac ctc ctg T (SEQ ID No: 177)
37	gac ctc ctg gag gag aG (SEQ ID No: 178)
38	aat tac ctt ttc cag gga cT (SEQ ID No: 179)
39	gag aag cgg gca gtg cT (SEQ ID No: 180)
40	ccc atg acc ctg cag cA (SEQ ID No: 181)
41	tg ggg cgg cct gag gA (SEQ ID No: 182)
42	gcc gtg acc ctg cag cA (SEQ ID No: 183)
43	g aat tac gtg cac cag tT (SEQ ID No: 184)
44	ac tgg aac agc cag aag C (SEQ ID No: 185)

Table 14-1

Probe No.	Base Sequence
0	a cca aca ggG gag ttt atg ( SEQ ID No : 186 )
1	gaa ttt gat gaA gat gag atg ( SEQ ID No : 187 )
2	ag ttt ggc cAa gcc ttt tc ( SEQ ID No : 188 )
3	ga cca aca ggA gag ttt atg ( SEQ ID No : 189 )
4	gaa ttt gat gaC gat gag atg ( SEQ ID No : 190 )
5	at ctg gat aaA aag gag acc ( SEQ ID No : 191 )
6	ttt ggc caa Acc ttt tcc tt (i SEQ ID No : 192 )
7	ag ttt ggc cGa gcc ttt tc (i SEQ ID No : 193 )
8	t gta cag acC cat aga cca ( SEQ ID No : 194 )
9	gaa gat gag cAg ttc tat gt ( SEQ ID No : 195 )
10	cg ttt gta caA acc cat aga ( SEQ ID No : 196 )
11	g gat ctg gaT aag aag gag ( SEQ ID No : 197 )
12	act tat gcc aTg ttt gta cag ( SEQ ID No : 198 )
13	att gct ata tCg aac aac aac ( SEQ ID No : 199 )
14	g aat atc gcT atc cag cgt ( SEQ ID No : 200 )

0	a cca aca ggG gag ttt atg ( SEQ ID No : 186 )
1	gaa ttt gat gaA gat gag atg ( SEQ ID No : 187 )
2	ag ttt ggc cAa gcc ttt tc ( SEQ ID No : 188 )
3	ga cca aca ggA gag ttt atg ( SEQ ID No : 189 )
4	gaa ttt gat gaC gat gag atg ( SEQ ID No : 190 )
5	at ctg gat aaA aag gag acc ( SEQ ID No : 191 )
6	ttt ggc caa Acc ttt tcc tt (i SEQ ID No : 192 )
7	ag ttt ggc cGa gcc ttt tc (i SEQ ID No : 193 )
8	t gta cag acC cat aga cca ( SEQ ID No : 194 )
9	gaa gat gag cAg ttc tat gt ( SEQ ID No : 195 )
10	cg ttt gta caA acc cat aga ( SEQ ID No : 196 )
11	g gat ctg gaT aag aag gag ( SEQ ID No : 197 )
12	act tat gcc aTg ttt gta cag ( SEQ ID No : 198 )
13	att gct ata tCg aac aac aac ( SEQ ID No : 199 )
14	g aat atc gcT atc cag cgt ( SEQ ID No : 200 )

Table 14-2

Probe No.

Base Sequence

0	tAc cag gga cgg cag ga (SEQ ID No: 201)
1	ccg gac agg Gta tgc aga (SEQ ID No: 202)
2	g gac agg gta tgc aga ca (SEQ ID No: 203)
3	gac gtg gga gag ttc cg (SEQ ID No: 204)
4	at tac ctt tTc cag gga cg (SEQ ID No: 205)
5	g gag ttc gTg cgc ttc g (SEQ ID No: 206)
6	gg cct gat gAg gag tac t (SEQ ID No: 207)
7	g gag gag Gag cgg gca (SEQ ID No: 208)
8	g gac agg atG tgc aga ca (SEQ ID No: 209)
9	gag ctg gGc ggg ccc (SEQ ID No: 210)
10	cgg cct gaC gag gag ta (SEQ ID No: 211)
11	cgg gca gtT ccg gac ag (SEQ ID No: 212)
12	c aac cgg gaA gag ttc gt (SEQ ID No: 213)
13	g gag gag ttT gtg cgc tt (SEQ ID No: 214)
14	g gag gag Ctc gtg cgc (SEQ ID No: 215)
15	cgg cct gaG gcg gag t (SEQ ID No: 216)
16	c ggg ccc Atg acc ctg (SEQ ID No: 217)
17	tg tac cag tTa cgg cag g (SEQ ID No: 218)
18	t gat gag gaC tac tgg aac (SEQ ID No: 219)
19	cag aag gac Ctc ctg gag (SEQ ID No: 220)
20	gtg acc ctA cag cgc cg (SEQ ID No: 221)
21	g gag gag tTc gcg cgc (SEQ ID No: 222)
22	g gag ctc gTg cgc ttc g (SEQ ID No: 223)
23	aat tac gtg Cac cag tta cg (SEQ ID No: 224)
24	tac aac cgg Cag gag tac (SEQ ID No: 225)
25	atc tac aac Agg cag gag t (SEQ ID No: 226)
26	ccg gac agg Ata tgc aga (SEQ ID No: 227)
27	c gag ctg gTc ggg ccc (SEQ ID No: 228)
28	g ccg gac agA gta tgc ag (SEQ ID No: 229)
29	g cac cag tTa cgg cag g (SEQ ID No: 230)
30	g cgg gca Ttg ccg gac (SEQ ID No: 231)

Table 14-3

Probe No.	Base Sequence
31	ct gat gag gTg tac tgg aa (SEQ ID No: 232)
32	gaa tgc tac Ccg ttt aat gg (SEQ ID No: 233)
33	cag aag gac Ttc ctg gag (SEQ ID No: 234)
34	ag aag gac aAc ctg gag g (SEQ ID No: 235)
35	gac ctc ctg Tag gag aag (SEQ ID No: 236)
36	g gag gag aGg cgg gca (SEQ ID No: 237)
37	g gac cag tTa cgg cag g (SEQ ID No: 238)
38	tc cag gga cTg cag gaa t (SEQ ID No: 239)
39	g gca gtg cTg gac agg g (SEQ ID No: 240)
40	g ctg ggc gGg ccc atg (SEQ ID No: 241)
41	cgg cct gaG gag gag ta (SEQ ID No: 242)
42	gg cct gag gAg gag tac t (SEQ ID No: 243)
43	agc cag aag Cac atc ctg (SEQ ID No: 244)



Table 15-1

Allele Number		Probe Number for Detection			
DPA1*010301	0	1	2		
DPA1*010302	3				
DPA1*0104	4				
DPA1*0105	5				
DPA1*0106	6				
DPA1*0107	7				
DPA1*0108	4	8			
DPA1*020101	9	6	5		
DPA1*020102	6	5			
DPA1*020103	10	5			
DPA1*020104	6	5			
DPA1*020105	3	10	5		
DPA1*020106	9	11	5		
DPA1*020201	12	11	5		
DPA1*020202	13	12	10	5	
DPA1*020203	14	5			
DPA1*0203	9	5			
DPA1*0301	15				
DPA1*0302	16				
DPA1*0401	17				

Table 15-2

Allele Number		Probe Number for Detection				
DPB1*010101	0	1				
DPB1*010102	2					
DPB1*020102	3	4	5	6	7	
DPB1*020103	8					
DPB1*020104	9					
DPB1*020105	10					
DPB1*020106	11					
DPB1*0202	12	13	5	14		
DPB1*030101	15	3	16	17		
DPB1*030102	18					
DPB1*0401	19	6	7			
DPB1*0402	3	4	6	7		
DPB1*0501	12	20	13	6		
DPB1*0601	16	17	21	6		
DPB1*0801	3	4	5			
DPB1*0901	22	16	5			
DPB1*1001	22	3	4	5		
DPB1*110101	23					
DPB1*110102	24					
DPB1*1301	15	5	25			
DPB1*1401	22	3	16	17		
DPB1*1501	23	26				
DPB1*1601	3	4	5	6		
DPB1*1701	22	16	5	6		
DPB1*1801	3	4	27			
DPB1*1901	13	5	25			
DPB1*200101	16	17	6			
DPB1*200102	28					
DPB1*2101	15	12	13	5	6	
DPB1*2201	12	13	5	6		

Table 15-3

Allele Number	Probe Number for Detection				
DPB1*2301	3	6	7		
DPB1*2401	13	14			
DPB1*2501	15	3	4	17	
DPB1*260101	29				
DPB1*2701	15	6			
DPB1*2801	4	17	27		
DPB1*2901	16	17	21		
DPB1*3001	22	13	5	6	
DPB1*3101	30				
DPB1*3201	31				
DPB1*3301	5	6	7		
DPB1*3401	30	26			
DPB1*3501	22	3	16		
DPB1*3601	15	12	20	13	6
DPB1*3701	3	4	5		
DPB1*3801	32				
DPB1*3901	6	7			
DPB1*4001	27				
DPB1*4101	33	34			
DPB1*4401	12	17	21		
DPB1*4501	3	4	17		
DPB1*4601	16	5	14		
DPB1*4701	13	5	14		
DPB1*4801	12	4	7	14	
DPB1*4901	4	6	7		
DPB1*5001	3	16	17		
DPB1*5101	19	4	6	7	
DPB1*5201	15	3	17		
DPB1*5301	4	27			
DPB1*5401	22	13	5		

Table 15-4

Allele Number	Probe Number for Detection			
DPB1*5501	22	3	5	6
DPB1*5601	19	17		
DPB1*5701	3	16	17	
DPB1*5801	12	5	6	
DPB1*5901	4	17	6	7
DPB1*6001	35			
DPB1*6101N	36			
DPB1*6201	12	20	27	
DPB1*6301	12	6		
DPB1*6401N	16	17	21	6
DPB1*6601	22	19	6	7
DPB1*6701	22	3	17	
DPB1*6801	3	4		
DPB1*6901	16	37		
DPB1*7001	3	16	17	
DPB1*7101	3	5	6	7
DPB1*7201	17	6	7	
DPB1*7301	4	17	7	
DPB1*7401	23	26		
DPB1*7501	3	4	7	
DPB1*7601	22	16	17	
DPB1*7701	38			
DPB1*7801	39			
DPB1*7901	15	3	4	
DPB1*8001	16	14		
DPB1*8101	4	5	6	7
DPB1*8201	14	40		
DPB1*8301	33			
DPB1*8401	13	41		
DPB1*8501	15	42		

Table 15-5

Allele Number	Probe Number for Detection				
DPB1*8601	43	16	5	14	
DPB1*8701	15	3	17	6	
DPB1*8801	15	16	5		
DPB1*8901	6				
DPB1*9001	19				
DPB1*9101	16	17	6		
DPB1*9201	15	16	17		
DPB1*9301	15	3	4	5	6
DPB1*9601	44				

Table 16-1

Allele Number	Probe Number for Detection			
DPA1*010301	0	1	2	
DPA1*010302	3			
DPA1*0104	4			
DPA1*0106	5			
DPA1*0107	6			
DPA1*0108	4	7		
DPA1*020101	8	5	7	
DPA1*020102	5	7		
DPA1*020103	9	7		
DPA1*020104	10			
DPA1*020105	3	9	7	
DPA1*020106	8	11	7	
DPA1*020201	3	11	7	
DPA1*020202	8	3	9	7
DPA1*020203	12	7		
DPA1*0203	8	7		
DPA1*0301	13			
DPA1*0302	12			
DPA1*0401	14			

Table 16-2

Allele Number	Probe Number for Detection					
DPB1*010101	0	1	2			
DPB1*010102	3					
DPB1*020102	4	5	6	7	8	9
DPB1*020103	10					
DPB1*020104	11					
DPB1*020105	12					
DPB1*020106	13					
DPB1*0202	14	15	7	16		
DPB1*030101	17	5	18	19		
DPB1*030102	20					
DPB1*0401	4	21	8	9		
DPB1*0402	4	5	6	8	9	
DPB1*0501	4	14	22	15	8	
DPB1*0601	18	19	7	8		
DPB1*0801	5	6	7			
DPB1*0901	23	18	7			
DPB1*1001	23	6	7			
DPB1*110101	17	24				
DPB1*110102	25					
DPB1*1301	17	7	26			
DPB1*1401	23	5	18	19		
DPB1*1501	24	16				
DPB1*1601	4	5	6	7	8	
DPB1*1701	23	18	7	8		
DPB1*1801	5	6	27			
DPB1*1901	4	15	7	26		
DPB1*200101	18	19	8			
DPB1*200102	18	19	8			

Table 16-3

Allele Number	Probe Number for Detection				
DPB1*2101	17	14	15	7	8
DPB1*2201	4	14	15	7	8
DPB1*2301	4	5	8	9	
DPB1*2401	15	16			
DPB1*2501	17	5	6	19	
DPB1*260101	28				
DPB1*260102	17				
DPB1*2701	17	8			
DPB1*2801	6	19	27		
DPB1*2901	18	19	7		
DPB1*3001	23	29	15	7	8
DPB1*3101	30				
DPB1*3201	31				
DPB1*3301	4	7	8	9	
DPB1*3401	30	16			
DPB1*3501	23	5	18		
DPB1*3601	17	14	22	15	8
DPB1*3701	17	5	6	7	
DPB1*3801	32				
DPB1*3901	4	8	9		
DPB1*4001	4	27			
DPB1*4101	33	7			
DPB1*4401	14	19	7		
DPB1*4501	29	5	6	19	
DPB1*4601	4	18	7	16	
DPB1*4701	15	7	16		
DPB1*4801	14	6	9	16	
DPB1*4901	6	8	9		
DPB1*5001	5	18	19		
DPB1*5101	4	21	6	8	9



Table 16-4

Allele Number	Probe Number for Detection				
DPB1*5201	17	5	19		
DPB1*5301	4	6	27		
DPB1*5401	23	29	15	7	
DPB1*5501	23	7	8		
DPB1*5601	17	21	19		
DPB1*5701	5	18	19		
DPB1*5801	29	14	7	8	
DPB1*5901	6	19	8	9	
DPB1*6001	34				
DPB1*6101N	35				
DPB1*6201	14	22	27		
DPB1*6301	14	8			
DPB1*6401N	18	19	7	8	
DPB1*6501	4				
DPB1*6601	23	16			
DPB1*6701	23	5	19		
DPB1*6801	4	5	6		
DPB1*6901	18	36			
DPB1*7001	37	5	18	19	
DPB1*7101	5	7	8	9	
DPB1*7201	19	8	9		
DPB1*7301	6	19	9		
DPB1*7401	17	24	16		
DPB1*7501	5	6	9		
DPB1*7601	23	18	19		
DPB1*7701	38				
DPB1*7801	39				
DPB1*7901	17	5	6		
DPB1*8001	4	18	40		
DPB1*8101	4	6	7	8	9

Table 16-5

Allele Number	Probe Number for Detection				
	4	5	6	8	9
DPB1*8201	4	5	6	8	9
DPB1*8301	33				
DPB1*8401	41	42			
DPB1*8501	17	8			
DPB1*8601	23	7	16		
DPB1*8701	17	5	19	8	
DPB1*8801	17	18	7		
DPB1*8901	8				
DPB1*9001	21				
DPB1*9101	23	19	8		
DPB1*9201	17	18	19		
DPB1*9301	17	5	6	7	8
DPB1*9601	43				

(Example 9)

Probes for identification of HLA-DQ allele

Extraction of DNA from 1 ml of human blood was performed using GFX Genomic Blood DNA Purification  
5 Kit from Amersham Biosciences in the same manner as in Example 1.

Next, quantitative PCR was carried out in the same manner as in Example 1 except that probes in the probe lists DQ1A and DQ1B were used and 2  $\mu$ l of the  
10 mixed primers consisting of 1  $\mu$ l each of respective solutions of the following primers (10 pmol/ $\mu$ l) and 6  $\mu$ l of ultra pure water were used:

GGTGAGGTAAGTATCTTG (SEQ ID NO: 165)

TCCTTCTGGCTGTTCCAGTACTC (SEQ ID NO: 166).

15 After PCR amplification, referring to Amp Plot and Dissociation curves on a display of 5700 software, and to the allele-probe list (Table 19A, 19B-1 and 19B-2), it was identified as DQA1\*0103 and DQB1\*060101.

20 (Example 10)

Extraction of DNA from 1 ml of human blood was performed in the same way as in Example 3. PCR of human HLA-DQ was then performed in the same manner as in Example 2 except that 3  $\mu$ l of the mixed primer  
25 consisting of 1  $\mu$ l each of the solutions containing the following sequences at 10 pmol/ $\mu$ l respectively, and 12  $\mu$ l of ultra pure water were used:

GGTGAGGTAAGTATCTTG (SEQ ID NO: 165)

ATGATCCTAAACAAAGCTCTG (SEQ ID NO: 167)

TGTGCTACTTCACCAACGGGACG (SEQ ID NO: 168).

At the same time, a DNA microarray was prepared  
5 to identify the allele in the specimen described  
above in the same manner as in Example 2, except that  
probes in the probe list of Tables 18A, 18B-1 and  
18B-2 were used to form the probe spots respectively.

Then, hybridization was performed using the  
10 above specimen and the prepared DNA microarray in the  
same manner as in Example 2. Fluorometry measurement  
was conducted with GenePix4000B (Axon). Referring to  
the allele-probe list (Tables 20A, 20B-1 and 20B-2),  
it was identified as DQA1\*0103 and DQB1\*060101.

15

#### Allele list

DQA1\*010101

atgatcctaaacaaagcctgctgctggggccctcgctcgaccaccgtagtgagccccgtggagggaagaca  
ttgtggctgaccacgttgccctgtgtgggtgaaactgtaccagttttacggccccctggccaglacacccaatga  
20 atttgatggagatgagGagttctacgtggacctggagaggaaggagactgccggcggtggccagttcagcaaa  
tttggaggttttgaccgcgagggtgcactgagaaacatggctgtggcaaacacaaactgaacatcatgattaaac  
gctacaactctaccgtgctaccaatgaggttccctgagggtcacagttttccaagctcccgtagacatgggtca  
gccaacacccctcattgtctgtgggacaacatccttccctgtgtgtcaacatcacatggctgagcaatgggcag  
tcagtcacagaagggtttctgagaccagcttctctccaagagtgatcattcttcttcaagatcagttacctca  
25 ccttctctcccttctgctgtagatgagttttgactgcaagggtggagcacatggggccctggaccagcccttctgaaaca  
ctgggagccctgagattccagccccatgtcagagctcacagagactgtgtgtcgccctgggggtgtctgtgggc  
ctcgtgggcatgtgtggggcacgtgttctcattcattccaaggcctgcgttcagttgggtgtctccagacaccaagggc

callgtga (SEQ ID NO:169)

DQA1\*010102

atgatccaaacaaagctcgcgcggggccctcgctcgcgaccaccgtagagccccctggaggagaagaca  
tctggcgcgaccacgtgacctctgtgggtgaaactgtaccagttttacggccccctggccaglacaccaatga  
5 attgatggagatgaggagttctacgtggaccggagaggaaggagacgccggcggtggccgagttcagcaaa  
tttggagggtttgacccgcagggtgcactgagaacaaggctgtggcaaacacacaactgaacatcatgattaaac  
gctacaactctaccgctgctaccaatgagggtccgagggtcacagtggtttccaagctccccgtacactgggtca  
gccaacacccctcatctgtctgtggacaacatctttccctctgtggtaacaatcacatggcagcaatgggcag  
tcagtcacagaagggtgttctgagaccagcttccctccaagagtatcatctcttcaagatcagttacctca  
10 ccttccctccctctgctgatgagatttatgactgcaagggtggagcacggggccggaccagccctctctgaaaca  
ctgggagccagatccagccccatgtcagagctcacagagactgtggctcgcgccctggggtgtctctgggc  
ctcgtgggcattgtgggggcacgtcttcaatccaaggccgcgttcagttgggtctccagacaccaGgggc  
callgtga (SEQ ID NO:170)

DQA1\*010201

15 atgatccaaacaaagctcgcgcggggccctcgctcgcgaccaccgtagagccccctggaggagaagaca  
tctggcgcgaccacgtgacctctgtgggtgaaactgtaccagttttacggccccctggccaglacaccaatga  
attgatggagatgagcagttctacgtggaccggagaggaaggagacgccggcggtggccgagttcagcaaa  
tttggagggtttgacccgcagggtgcactgagaacaaggctgtggcaaacacacaactgaacatcatgattaaac  
gctacaactctaccgctgctaccaatgagggtccgagggtcacagtggtttccaagctccccgtacactgggtca  
20 gccaacacccctcatctgtctgtggacaacatctttccctctgtggtaacaatcacatggcagcaatgggcag  
tcagtcacagaagggtgttctgagaccagcttccctccaagagtatcatctcttcaagatcagttacctca  
ccttccctccctctgctgatgagatttatgactgcaagggtggagcacggggccggaccagccctctctgaaaca  
ctgggagccagatccagccccatgtcagagctcacagagactgtggctcgcgccctggggtgtctctgggc  
ctcAtgggcattgtgggggcacgtcttcaatccaaggccgcgttcagttgggtctccagacaccaagggc

25 callgtga (SEQ ID NO:171)

DQA1\*010202

atgatccaaacaaagctcgcgcggggccctcgctcgcgaccaccgtagagccccctggaggagaagaca

ttgtggctgaccacgttgccctctgtgggtglaaacttgaccagttttacgggccctctggccagttaccccatga  
atttgaiggagatgagcagttctacgtggacciggagaggaaggagactgccggcggtggccagttcagcaaa  
tttggaggtttggaccgcagggtgcactgagaaacatggctgtggcaaaacacaacttgaacatcatgattaaac  
gttacaactctaccgtgctaccaatgagggtccctgagggtcacagtgtttccaagttctccgtgacactgggtca  
5 gccaacacccctcatctgtctgtggacaacatctttccctccgtgggtcaacatcacatggctgagcaatgggcag  
tcagtcacagaagggtgttctgagaccagcttccctccaagagtatcatctcttcaagatcagttacctca  
ccttctctcttctgtctgattagatttatgactgcaagggtggagcacggggccggaccagccctctctgaaaca  
ctgggagccctgagattccagccctatgtcagagctcacagagactgtggctctgtcccgggggtgtctgtgggc  
ctcAtgggcattgtgggtgggcactgtcttcatcatccaaggccctgcgttcagttgggtgttccagacaccaagggc  
10 cattgtga (SEQ ID NO:172)

DQA1\*0103

atgatcctaacaagctctgtctgtggggccctcgctctgaccaccgtgatgagccctgtggagggtgaagaca  
ttgtggctgaccatgttgccctctgtgggtglaaacttgaccagttttacgggccctctggccagttacccatga  
atttgaiggagatgagcagttctacgtggacciggagaagaaggagactgccggcggtggccagttcagcaaa  
15 tttggaggtttggaccgcagggtgcactgagaaacatggctgtggcaaaacacaacttgaacatcatgattaaac  
gttacaactctaccgtgctaccaatgagggtccctgagggtcacagtgtttccaagttctccgtgacactgggtca  
gccaacacccctcatctgtctgtggacaacatctttccctccgtgggtcaacatcacatggctgagcaatgggcac  
Gcagtcacagaagggtgttctgagaccagcttccctccaagagtatcatctcttcaagatcagttacctca  
ccttctctcttctgtctgattagatttatgactgcaagggtggagcacggggccggaccagccctctctgaaaca  
20 ctgggagccctgagattccagccctatgtcagagctcacagagactgtggctctgtcccgggggtgtctgtgggc  
ctctgtgggcattgtgggtgggcactgtcttcatcatccaaggccctgcgttcagttgggtgttccagacaccaagggc  
ccttgtga (SEQ ID NO:173)

DQA1\*010401

atgatcctaacaagctctgtctgtggggccctcgctctgaccaccatgatgagccctgtggagggtgaaggca  
25 ttgtggctgaccacgttgccctctgtgggtglaaacttgaccagttttacgggccctctggccagttacccatga  
atttgaiggagatgaggagttctacgtggacciggagaggaaggagactgccggcggtggccagttcagcaaa  
tttggaggtttggaccgcagggtgcactgagaaacatggctgtggcaaaacacaacttgaacatcatgattaaac

gctacaactctaccgctgctaccaatgaggttccctgaggctcacagtggtttccaagctccccgtgacacigggtca  
gccaacacccctcatttgctcttgaggacaacatcttccctcccttggttcaacatcacatggctgagcaatgggcag  
tcagtcacagaagggtgttctgagaccagcttccctccaagagtgaatcattccctctcaagatcagtlacctca  
ccctccctccctctgctgatgagattatgactgcaagggtggagcacggggccctggaccagccctctctgaaaca  
5 ctgggagccctgagatccagccccatgctcagagctcacagagactgtggctctgcAccctgggggtgtctgtgggc  
ctctgtgggcattgtgtgggcacgtctctcattcattccaaggccctgcgtcagttgggtgtctccagacaccaagggc  
cattgtga (SEQ ID NO:174)

DQA1\*010402

atgatccctaaacaaagctctgctgctgggggccccctgctctgaccaccatgatgagccccctgtggaggatgaagGca  
10 ttgtggctgaccacgttgcctctgtgggtgtaaactgttaccagttttacggctccctctggccagctacacccaatga  
atttgatggagatgaggagttctacgtggaccctggagaggaaggagactgcttggcgggtggccctgagttcagcaaa  
tttggagggtttgacctcgagggtgcactgagaaacatggctgtggcaaaacacaacttgaacatcatgatataaac  
gctacaactctaccgctgctaccaatgaggttccctgaggctcacagtggtttccaagctccccgtgacacigggtca  
gccaacacccctcatttgctcttgaggacaacatcttccctcccttggttcaacatcacctggctgagcaatgggcag  
15 tcagtcacagaagggtgttctgagaccagcttccctccaagagtgaatcattccctctcaagatcagtlacctca  
ccctccctccctctgctgatgagattatgactgcaagggtggagcacggggccctggaccagccctctctgaaaca  
ctggg (SEQ ID NO:175)

DQA1\*0105

atgatccctaaacaaagctctgctgctgggggccccctgctctgaccaccatgatgagccccctgtggaggatgaagGca  
20 ttgtggctgaccacgttgcctctgtgggtgtaaactgttaccagttttacggctccctctggccagctacacccaatga  
atttgatggagatgaggagttctacgtggaccctggagaggaaggagactgcttggcgggtggccctgagttcagcaaa  
tttggagggtttgacctcgagggtgcactgagaaacatggctgtggcaaaacacaacttgaacatcatgatataaac  
gctacaactctaccgctgctaccaatgaggttccctgaggctcacagtggtttccaagctccccgtgacacigggtca  
gccaacacccctcatttgctcttgaggacaacatcttccctcccttggttcaacatcacatggctgagcaatgggcag  
25 tcagtcacagaagggtgttctgagaccagcttccctccaagagtgaatcattccctctcaagatcagtlacctca  
ccctccctccctctgctgatgagattatgactgcaagggtggagcacggggccctggaccagccctctctgaaaca  
ctgggagccctgagatccagccccatgctcagagctcacagagactgtggctctgcggccctgggtgtctgtgggc

ctcgtgggcatlgtgggggcactglttltatccaaggcclgcgttcagttgggtgttccaga (SEQ ID NO:176)

DQA1\*0106

ctgaccacgttgcccttltgtgtgttaaactltgtaccagttttacggccccctggccaglacaccaatgaatttga  
5 tggagatgagcagtttctacgtggaccitggagaggaaggagGctgccitggcggitggcctgagttcagcaaatttggaggtttt  
gacccgcagggtgcactgagaaacatggcgtgtggcaaacacaaacttgaacatcatgattaaacgttaca  
acttaccgtgtctaccaatg (SEQ ID NO:177)

DQA1\*0201

atgatcctaaacaaagctctgatgtcgtggggggccctcgccctgaccaccgtgatgagccctltgtggaggatgaagaca  
10 ttgtggctgaccacgttgcccttltacgggtgttaaactltgtaccagtttctacggccccctggccagttcacccaatga  
atttgaatggagacgaggagtttctatgttgaccitggagaggaaggagactgtcttgggaagttgccctgttccacaga  
Cttaga...tttggacccgcaatttgcactgacaaacatcgctgtgtctaaaacataacttgaacatcttgattaaac  
gttccaactctaccgtgtctaccaatgagggttccitgagggtcacagtggttttccaagttccccgtgacactgggttca  
gccaacacccctcatctgtctltgttgacaacatcttccctccitgggtcaacatcacctggctgagcaatgggcac  
15 tcatgtcacagaagggttltctgagaccagttcccttccaagagtgaatcttcttccaagatcagttaccttca  
ccttccctcccttctgtgtgatgagatttatgtactgcaagggtggagcacitggggccitggatgagcccttcttgaacaa  
ctgggagccitgagatccagcacctatgtcagagctcacagagactgtgggtctgtgccctgggggtgtctgttgggc  
ctcgtgggcatlgtgggtggggaccgttltgatcatccgaggccitgcgttcagttgggtgttccagacaccaagggc  
ccttgtga (SEQ ID NO:178)

20 DQA1\*030101

atgatcctaaacaaagctctgatgtcgtggggggccctcgccctgaccaccgtgatgagccctltgtggaggatgaagaca  
ttgtggctgaccaatgttgcccttltacgggtgttaaactltgtaccagtttctacggccccctggccagttacagccatga  
atttgaatggagacgaggagtttctatgttgaccitggagaggaaggagactgtcttggcagttgccctgttccgcaga  
ttttagaagatttggacccgcaatttgcactgacaaacatcgctgtgtctaaaacataacttgaacatcttgattaaac  
25 gttccaactctaccgtgtctaccaatgagggttccitgagggtcacagtggttttccaagttccccgtgacactgggttca  
gccaacacccctcatctgtctltgttgacaacatcttccctccitgggtcaacatcacctggctgagcaatgggcac  
tcatgtcacagaagggttltctgagaccagttcccttccaagagtgaatcttcttccaagatcagttaccttca



ccctccctccctctcgtgatgagattatgacigcaaggtaggagcaciggggctggatgagccctctcigaaaca  
ctgggagccigagattccaAcacctatgicagagctcacagagacigggctcgcgccctggggtgctctgggc  
ctcgtgggcatgtggtagggaccgcttgatcatccgaggcccggttcagtaggtgctccagacaccaagggc  
cccttgta (SEQ ID NO:179)

## 5 DQA1\*0302

atgatccaaacaaagctctgatgctgggggcccccgcccigaccaccgigaCgagccctgtggaggigaagaca  
ttgtggctgaccaatgttgcctcttacgggtgaaactgtaccagcttattggctccctcgggcagtagaccaatga  
attgatggagacgaggagtctatgtggaccigagaggaaggagacgtctggcagtgccctctgtccgcaga  
tttagaagattgacccgcaattgcactgacaaacatcgctgtgctaaaacataactgaacatcgtgattaaac  
10 gctccaactctaccgctgttaccaatgaggctcctgaggctcacagtggttccaagctcccgtagacctgggtca  
gccaacacccctcatctgtctgtggacaacatcttccctcctgtggtaacatcacctggctgagcaatgggcac  
tcagtcacagaagggtgttctgagaccagcttccctcctcaagagtgaicattccctcttcaagatcagtiacctca  
ccctccctccctctcgtatgagattatgacigcaaggtaggagcaciggggctggatgagccctctcigaaaca  
ctgggagccigagattccaacacctatgicagagctcacagagacigggctcgcgccctggggtgctctgggc  
15 ctcgtgggcatgtggtagggaccgcttgatcatccgaggcccggttcagtaggtgctccagacaccaagggc  
cccttgta (SEQ ID NO:180)

## DQA1\*0303

atgatccaaacaaagctctgatgctgggggcccccgcccigaccaccgigaCgagccctgtggaggigaagaca  
ttgtggctgaccaatgttgcctcttacgggtgaaactgtaccagcttattggctccctcgggcagtagaccaatga  
20 attgatggagacgaggagtctatgtggaccigagaggaaggagacgtctggcagtgccctctgtccgcaga  
tttagaagattgacccgcaattgcactgacaaacatcgctgtgctaaaacataactgaacatcgtgattaaac  
gctccaactctaccgctgttaccaatgaggctcctgaggctcacagtggttccaagctcccgtagacctgggtca  
gccaacacccctcatctgtctgtggacaacatcttccctcctgtggtaacatcacctggctgagcaatgggcac  
tcagtcacagaagggtgttctgagaccagcttccctcctcaagagtgaicattccctcttcaagatcagtiacctca  
25 ccctccctccctctcgtatgagattatgacigcaaggtaggagcaciggggctggatgagccctctcigaaaca  
ctgggagccigagattccaacacctatgicagagctcacagagacigggctcgcgccctggggtgctctgggc  
ctcgtgggcatgtggtagggaccgcttgatcatccgaggcccggttcagtaggtgctccagacaccaagggc

ccctgtga (SEQ ID NO:181)

DQA1\*040101

a l g a l c c t a a c a a a g c t c t g c t g c t g g g g c c c t t g c c c t g a c c a c c g t g a l g a g c c c c t g t g g a g g i g a a g a c a  
t t g t g g c t g a c c a t g t t g c c t c t t a l g g t g t a a a c t t g t a c c a g t c t t a c g g t c c c t c t g g c c a g t a c a c c c a t g a  
5 a t t i g a t g g a g a c g a g c a g t t c t a c t g g a c c t g g g g a g a a g g a g a c t g t c t g g t g t t t g c c t g t t c t a g a c a a  
t t t a g a . . . t t t g a c c c g c a a t t t g c a c t g a c a a a c a t c g c t g t g a c a a a a c a c a a c t t g a a c a t c c t g a t t a a c  
g c t c c a a c t c t a c T g c t g c t a c c a a t g a g g t t c c t g a g g t c a c a g t g t t t c c a a g t c t c c c t g a c g c t g g g t c a  
g c c c a a c a c c c t c a t c t g t c t t g t g g a c a a c a t c t t t c c t c c t g t g g t c a a c a t c a c a t g g c t g a g c a a t g g g c a c  
t c a g t c a c a g a a g g t g t t t c t g a g a c c a g t t c c t c t c c a a g a g t a t c a t t c c t t c t t a a g a t c a g t t a c t t c a  
10 c c t t c c t c c c t t c t g c t g a t g a g a t t t a l g a c t g c a a g g t g g a g c a c t g g g g c c t g g a c g a g c c t c t t c t g a a c a  
c t g g g a g c c t g a g a t t c c a g c c c c t a l g t c a g a g c t c a c a g a g a c t g t g g t c t g c g c c c t g g g a t t g t c t g t g g g c  
c t c g t g g g c a t t g t g g t g g g c a c t g t c t t c a t c a t c c g a g g c c t g c g t t c a g t t g g t g c t t c c a g a c a c c a a g g g c  
c C t t g t g a (SEQ ID NO:182)

DQA1\*040102

15 c t g a c c a t g t t g c c t c t t a l g g t g t a a a c t t g t a c c a g t c t t a c g g t c c c t c t g g c c a g t a c a c c c a t g a a t t t g a  
t g g a g a c g a g c a g t t c t a c t g g a c c t g g g g a g a a g g a g a c t g t c t g g t g t t t g c c t g t t c t a g a c a a t t t a g a  
... t t t g a c c c g c a a t t t g c a c t g a c a a a c a t c g c t g t g a c a a a a c a c a a c t t g a a c a t c c t g a t t a a a c g c t c c a  
a c t c t a c t g c t g c t a c c a a t g a g g t t c c t g a g g t c a c a g t g t t t t c c a a g t c t c c T g t g a c g c t g g g t c a g c c c a a  
c a c c c t c a t c t g t c t t g t g g a c a a c a t c t t t c c t c c t g t g g t c a a c a t c a c a t g g c t g a g c a a t g g g c a c t c a g t c  
20 a c a g a a g g t g t t t c t g a g a c c a g t t c c t c t c c a a g a g t a t c a t t c c t t c t t a a g a t c a g t t a c t t a c c t t c c  
t c c c t t c t g c t g a t g a g a t t t a l g a c t g c a a g g t g g a g c a c t g g g g c c t g g a c g a g c c t c t t c t g a a c a c t g g g (

SEQ ID NO:183)

DQA1\*050101

a l g a l c c t a a c a a a g c t c t g a t g c t g g g g c c c t t g c c c t g a c c a c c g t g a l g a g c c c c t g t g g a g g i g a a g a c a  
25 t t g t g g c t g a c c a c t c g c c t c t t a l g g t g t a a a c t t g t a c c a g t c t t a c g g t c c c t c t g g c c a g t a c a c c c a t g a  
a t t i g a t g g a g a l g a g c a g t t c t a c t g g a c c t g g g g a g a a g g a g a c t g t c t g g t g t t t g c c t g t t c t a g a c a a  
t t t a g a . . . t t t g a c c c g c a a t t t g c a c t g a c a a a c a t c g c t g t c c t a a a c a t a a c t t g a a c a g t c t g a t t a a c

gctccaacictaccgctgctaccaalgaggltccigaggltcacagtglttccaagltcccclgacactgggtca  
gccaacatccctcatctgtctgtggacaacatcttccctccgtgggtcaacatcacatggctgagcaatgggcac  
tcagtcacagaagggtgttctgagaccagcttccctccaagagtatcatcttctcaagatcagttacctca  
ccctccctcccttctgtgaggagagltatgactgcaagggtggagcaciggggccggacAagcccttctgaaaca  
5 ctgggagccctgagatccagccccatgtcagagctcacagagactgtggtctgcgccctgggAltgtctgtgggc  
ctcgtgggcatgtgtgggggacgtgtctcatcatccgaggccctgcgttcagltgggtgttccagacaccaagggc  
ccttgtga (SEQ ID NO:184)

DQA1\*050102

gaagacatgtgtggctgaccacgttgcccttAlgggtgaaactgtaccagctctacggltccctctggccagttaca  
10 cccatgaatttgatggagatgagcagttctacgtggacctggggaggaaggagactgtctgggtgttggcgttct  
cagacaattttaga...tttgaccgcaatttgactgacaaacatcgctgtctctaaaacataacttgaacagTctg  
attaaacgctccaacictaccgctgctaccaat (SEQ ID NO:185)

DQA1\*0502

gggtgaaactgtaccagctctacggltccctctggccagttacacccatgaatttgatggagatgagcagttctacg  
15 tggacctggggaggaaggagactgtctgggtgttggcgttctcagacaattttaga...tttgaccGgcaatttgc  
actgacaaacatcgctgtctctaaaacataacttgaacagcttgattaaacgctccaacictaccgctgctacc (SE  
Q ID NO:186)

DQA1\*0503

atgatcctaaacaaagctctgatgtggggcccttgccctgaccaccgtgatgagccccgtggagggtgaagaca  
20 ttgtggctgaccacgtcgcccttAlgggtgaaactgtaccagctctacggltccctctggccagttacacccatga  
atttgatggagatgagcagttctacgtggacctggggaggaaggagactgtctgggtgttggcgttctcagacaa  
ttttaga...tttgaccgcaatttgcactgacaaacatcgctgtctctaaaacataacttgaacagcttgattaaac  
gctccaacictaccgctgctaccaalgaggltccigaggltcacagtglttccaagltcccclgacactgggtca  
gccaacatccctcatctgtctgtggacaacatcttccctccgtgggtcaacatcacatggctgagcaatgggcac  
25 tcagtcacagaagggtgttctgagaccagcttccctccaagagtatcatcttctcaagatcagttacctca  
ccctccctcccttctTctgaggagagltatgactgcaagggtggagcaciggggccggacaagcccttctgaaaca  
ctgggagccctgagatccagccccatgtcagagctcacagagactgtggtctgcgccctgggaltgtctgtgggc

ctcgtgggcattggtgggcacgtcttcatcatccgaggccgcgttcagttggtgtccagacaccaagggc  
ccttltga (SEQ ID NO:187)

DQA1\*0504

ctgaccacgtcgcccttattggtgtaaactgtaccagcttaccggtctcttggccaglacacccatgaatttga  
5 tggagatgagcagttctacgtggacctggggaggaaggagactgtctgggtttgccgtgtctcagacaaattaga  
...tttgaccgcgaatttgacatgacaaacatcgctgttctaaaacataacttgaacagtcgtattaaacgctcca  
actctaccgtgtctaccaatg (SEQ ID NO:188)

DQA1\*0505

atgatccaaacaaagctctgatgctggggacccttgccctgaccaccgtgatgagccccgtggagggtgaagaca  
10 ttgtggctgaccacgtcgcccttattggtgtaaactgtaccagcttaccggtcccttggccaglacacccatga  
atttgaatggagatgagcagttctacgtggacctggggaggaaggagactgtctgggtttgccgtgtctcagacaa  
ttttaga...tttgaccgcgaatttgacatgacaaacatcgctgttctaaaacataacttgaacagtcgtattaaac  
gctccaactctaccgtgtctaccaatgagggttcttgagggtcacagtggtttccaagctccccgtgacacgtgggtca  
gccaacatccctcatctgtcttgggacaacatcttccctctgtgggtcaacatcacatggctgagcaatgggcac  
15 tcatgtcacagaagggtttcttgagaccagcttctctccaagagtgatcatctctctcaagatcagttacctca  
cccctctccctctgtctgaggagagttatgactgcaagggtgagcacatggggActggacaagccctctctgaaaca  
ctgggagccctgagatccagccccatgtcagagctcacagagactgtgggtctgcgccccggggtgtctgtgggc  
ctcgtgggcattggtgggcacgtcttcatcatccgaggccgcgttcagttggtgtctccagacaccaagggc  
ccttltga (SEQ ID NO:189)

20 DQA1\*060101

atgatccaaacaaagctctgtctgctgggggcccttgccctgaccaccgtgatgagccccgtggagggtgaagaca  
ttgtggctgaccatgttgcctcttattggtgtaaactgtaccagcttaccggtcccttggccagttcacccatga  
atttgaatggagacgagcagttctacgtggacctggggaggaaggagactgtctgggtttgccgtgtctcagacaa  
ttttaga...tttgaccgcgaatttgacatgacaaacatcgctgtgacaaaacacaaacttgaacatccgtattaaac  
25 gctccaactctaccgtgtctaccaatgagggttcttgagggtcacagtggtttccaagctccccgtgacGctgggtca  
gccaacacccctcatctgtcttgggacaacatcttccctctgtgggtcaacatcacatggctgagcaatgggcac  
tcatgtcacagaagggtttcttgagaccagcttctctccaagagtgatcatctctctcaagatcagttacctca

ccctccctccctctcgtgatgagattatgactgcaaggaggagcacatggggcctggacgagccctctctgaaaca  
ctgggagccctgagattccagccccatgctcagagctcacagagacigtggctcgcgccctgggattgtctgtgggc  
ctcgtgggcatgtgtggggcacatgtcttcaatccagaggcctgcgttcagltgggtgtctccagacaccaagggc  
ccttgtga (SEQ ID NO:190)

5 DQA1\*060102

ggtgtaaactgtaccagcttaccgtccccctggccagttcacccaatgaattgatggagacgagcagttctacg  
tggacctggggaggaaggagactgtctgggtgttggctgttctcagacaatttaga...tttgaccgcgaatttgc  
actgacaaacatcgctgacaaaacacaacttgaacatccgtataaacgtccaactctaccgtgtctaccaat  
ga (SEQ ID NO:191)

10 DQB1\*050101

gggccctgtgtacttaccacacgggacggagcgctgcgggggtgtgaccagacacatctataaccgagaggagtac  
gtgcgtctgcacagcgacgtgggggtgtaccgggcAgtagcgccgcaggggcggccctgttgcgagttacttgaaca  
gccagaaggaagtcctggagggggcccgggcgTcgttggacaGggtgtgcagacacaactacgaggtggcgtaccg  
cgggatccctgcagaggagagtgaggccacagtgaccatctcccatccaggacagaggccctcaaccaccacaac  
15 ctgtgtatctgtctgggtgacagatttctatccaagccagatcaaagtcgggtgttctggaatgatcaggaggaga  
cagccggcggtgtgtccacccccctcatlaggaacgggtgactggacctccagatccctgggtgtgttggaaatgac  
tccccagcgtggagatgtctacacctgccacgtggagcaccacagccctccagagcccatcaccgtggagtg (SE  
Q ID NO:192)

DQB1\*050102

20 gggccctgtgtacttaccacacgggacggagcgctgcgggggtgtgaccagacacatctataaccgagaggagtac  
gtgcgtctgcacagcgacgtgggggtgtaccgggcgggtgacgccgcaggggcggccctgttgcgagttacttgaaca  
gccagaaggaagtcctggagggggcccgggcgTcgttggacagAggtgtgcagacacaactacgaggtggcgtaccg  
cgggatccctgcagagg (SEQ ID NO:193)

DQB1\*050201

25 gggccctgtgtacttaccacacgggacggagcgctgcgggggtgtgaccagacacatctataaccgagaggagtac  
gtgcgtctgcacagcgacgtgggggtgtaccgggcgggtgacgccgcaggggcggccctagcggcagttacttgaaca  
gccagaaggaagtcctggagggggcccgggcgTcgttggacagagtggtgcagacacaactacgaggtggcgtaccg

cgggatccctgcagaggagagtgaggccacagigaccaatciccccatccaggacagaggccccaaccaccacaac  
ctgctgatactgctcggigacagatttctatccaagccaCaicaaagtcggigggttctcggaatgatacaggaggaga  
cagccggcggtgtgtccacccccctcattaggaacggigactggaccttccagatccctggatgctggaaatgac  
tccccagcgtggagatgtctacacctgccacgtggagcaccacagccctccagagccccaaccgtggagtgg (SE

5 Q ID NO:194)

DQB1\*050202

gggccctgtctacttcaccaacgggacggagcgcgtgcgggggtgtgaccagacacatactataaaccgagaggagtac  
gtgcgcttcgacagcgacgtgggggtgtatcgggcgggtgacgccgagggcgccctgACgccgagtactggaaca  
gccagaaggaagtcctggagggggcccgggcgctcggtggacagAggtgtgcagacacaactacgaggtggcgtaaccg

10 cgggatccctgcagagga (SEQ ID NO:195)

DQB1\*050301

gggccctgtctacttcaccaacgggacggagcgcgtgcgggggtgtgaccagacacatactataaaccgagaggagtac  
gtgcgcttcgacagcgacgtgggggtgtatcgggcgggtgacgccgagggcgccctgACgccgagtactggaaca  
gccagaaggaagtcctggagggggcccgggcgctcggtggacagAggtgtgcagacacaactacgaggtggcgtaaccg

15 cgggatccctgcagaggagagtgaggccacagigaccaatciccccatccaggacagaggccccaaccaccacaac  
ctgctgatactgctcggigacagatttctatccaagccagatcaaagtcggigggttctcggaatgatacaggaggaga  
cagccggcggtgtgtccacccccctcattaggaacggigactggaccttccagatccctggatgctggaaatgac  
tccccagcgtggagatgtctacacctgccacgtggagcaccacagccctccagagccccaaccgtggagtgg (SE  
Q ID NO:196)

20 DQB1\*050302

gacggagcgcgtgcgggggtgtgaccagacacatactataaaccgagaggagtacgtgcgcttcgacagcgacgtgggg  
gtgtatcgggcgggtgacgccgagggcgccctgAtgccgagtactggaacagccagaaggaagtcctggag (SEQ  
ID NO:197)

DQB1\*0504

25 ggccctgtctacttcaccaacgggacggagcgcgtgcgggggtgtgaccagatatactataaaccgagaagagtac  
gtgcgcttcgacagcgacgtgggggtgtaccggcggtgacgccgagggcgccctgAGcccgagtactggaaca  
gccagaaggacatccctggaggAggaccggcgctcggtggacaggggtgtgcagacacaact (SEQ ID NO:198)

0 DQB1\*0202

**DQB1\*0203**

**DQB1\*030101**

ggccaigtgctacttcaccaacgggacggagcgcgtgcgttaigtgaccagatacatctataaccgagaggaglac  
gcacgcttcgacagcgacgtggAggtgtaccgggcgtgacgccgtggggccgctgAcgccgagtlactggaaca  
gccagaaggaagtcctggagaggacccgggcggagtggacacgggtgacagacacaactaccagltggagctccg  
cacgaccttgcagcggcgagtggagcccacagtgacatctcccatccaggacagaggccctcaaccaccacaac  
5 ctcgtggctcgtcagtgacagatttctatccagcccagatcaaagtcgggtgggttcggaatgaccaggaggaga  
caaccggcgttgtgtccaccccccttatlaggaacggtagctggacctccagatccgtggtagcttggaatgac  
tccccagcaggagaCgtctacacctgccacgtggagcaccacccagctccagaAccccatcacctggagtgg (SE  
Q ID NO:202)

DQBI\*030102

10 ggccaigtgctacttcaccaacgggacggagcgcgtgcgttaigtgaccagatacatctataaccgagaggaglac  
gcgcgcttcgacagcgacgtggAggtgtaccgggcgtgacgccgtggggccgctgAcgccgagtlactggaaca  
gccagaaggaagtcctggagaggacccgggcggagtggacacgggtgacagacacaactaccagltggagctccg  
cacgaccttgcagcggcgag (SEQ ID NO:203)

DQBI\*0302

15 gggcaltgtgctacttcaccaacgggacggagcgcgtgcgtcttgtgaccagatacatctataaccgagaggaglac  
gcAcgcttcgacagcgacgtgggggtgtatcgggcggtagccgcgtggggccgctgCgccgagtlactggaaca  
gccagaaggaagtcctggagaggacccgggcggagTggacacgggtgacagacacaactaccagltggagctccg  
cacgaccttgcagcggcgagtggagcccacagtgacatctcccatccaggacagaggccctcaaccaccacaac  
ctcgtggctcgtcagtgacagatttctatccagcccagatcaaagtcgggtgggttcggaatgaccaggaggaga  
20 caactggcgttgtgtccaccccccttatlaggaacggtagctggacctccagatccgtggtagcttggaatgac  
tccccagcgtggagacgtctacacctgccacgtggagcaccacccagctccagaacccatcaTcgtggagtgg (SE  
Q ID NO:204)

DQBI\*030302

gggcaigtgctacttcaccaacgggacggagcgcgtgcgtcttgtgaccagatacatctataaccgagaggaglac  
25 gcacgcttcgacagcgacgtgggggtgtatcgggcggtagccgcgtggggccgctgAcgccgagtlactggaaca  
gccagaaggaagtcctggagaggacccgggcggagTggacacgggtgacagacacaactaccagltggagctccg  
cacgaccttgcagcggcgagtggagcccacagtgacatctcccatccaggacagaggccctcaaccaccacaac



ctgctggctcgtcagtgacagatttctatccagcccagatcaaagtcgggtggtttcggaatgaccaggaggaga  
caaciggcgttggtccaccccccttattaggaacggtagctggaccttccagatccctggtagctggaaatgac  
tccccagcgtggagacgtctacacctgccacgtggagcaccacagccctccagaaccccatcaTcgtggagtgg (SE  
Q ID NO:205)

## 5 DQBI\*030303

gggcatgtgtacttcaccaacgggacggagcgcgtgcgtTtgtagaccagatatactataaaccgagaggagtac  
gcgcgttcgacagcgacgtgggggtgtaTcgggcggtagcggcgtggggcGccctgAcgccgagtagtgaaca  
gccagaaggaagtcctggagAggacccggcggtTggacacgggtgtgcagacacaactaccagtggagctccg  
cacgaccttgacgcgcgag (SEQ ID NO:206)

## 10 DQBI\*0304

ggccatgtgtacttcaccaacgggacggagcgcgtgcgtTtgtagaccagatatactataaaccgagaggagtac  
gcacgttcgacagcgacgtggAggtgtaccgggcggtagcggcgtggggccgctgCgccgagtagtgaaca  
gccagaaggaagtcctggagaggacccggcggtTggacacgggtgtgcagacacaactaccagtggagctccg  
cacgaccttgacgcgcgagtgagccacagtagcaatctcccatccaggacagaggccctcaaccaccacaac

15 ctgctggctcgtcagtgacagatttctatccagcccagatcaaagtcgggtggtttcggaatgaccaggaggaga  
caaccggcgttggtccaccccccttattaggaacggtagctggaccttccagatccctggtagctggaaatgac  
tccccagcatggagaCgtctacacctgccacgtggagcaccacagccctccagaAccccatcacctggagtgg (SE  
Q ID NO:207)

## DQBI\*030501

20 gggcatgtgtacttcaccaacgggacGgagcgcgtgcgggtgtgtagaccagatatactataaaccgagaggagtac  
gcgcgttcgacagcgacgtgggggtgtaTcgggcggtagcggcgtggggccgctgccgccgagtagtgaaca  
gccagaaggaagtcctggagaggacccggcggtTggacacgggtgtgcagacacaactaccagtggagctccg  
cacgaccttgacgcgcgagtgagccacagtagcaatctcccatccaggacagaggccctcaaccaccacaac  
ctgctggctcgtcagtgacagatttctatccagcccagatcaaagtcgggtggtttcggaatgaccaggaggaga  
25 caaciggcgttggtccaccccccttattaggaacggtagctggaccttccagatccctggtagctggaaatgac  
tccccagcgtggagacgtctacacctgccacgtggagcaccacagccctccagaaccccatcatcgtggagtgg (SE  
Q ID NO:208)

DQB1\*030502

gggcatgtgctacttcaccaacgggacggagcgcgltcggggtgtgaccagatataataaccgagaggagttac  
gcgcgttcgacagcgacgtgggggtgtatcgggcggtagccgcgtggggccgctgCgcccagttacttgaaca  
gccagaaggaagtcctggagAggacccgggcggagltggacaCggltgtcagacacaactaccagltggagctccg  
5 cagcaccttgcagcggcgag (SEQ ID NO:209)

DQB1\*0306

gggcatgtgctacttcaccaacgggacggagcgcgltcggtctgtgaccagatataataaccgagaggagttac  
gcacgttcgacagcgacgtgggggtgtatcgggcggtagccgcgtggggcGcctgacgccgagttacttgaata  
gccagaaggacatcctggaggaggaccgggcgtcggtggacaccgtAtgcagacacaactaccagltggagctccg  
10 cagcaccttgcagcggcgag (SEQ ID NO:210)

DQB1\*0307

gggcatgtgctacttcaccaacgggacggagcgcgltcggtctgtgaccagatataataaccgagaggagttac  
gcacgttcgacagcgacgtgggggtgtatcgggTggtagccgcgtggggccgctgcccggagttacttgaaca  
gccagaaggaagtcctggaggaggaccgggcggagltggacacggltgtcagacacaactaccagltggagctccg  
15 cagcaccttgcagcggcga (SEQ ID NO:211)

DQB1\*0308

gggcatgtgctacttcaccaacgggacggagcgcgltcggtctgtgaccagatataataaccgagaggagttac  
gcAcgcttcgacagcgacgtgggggtgtatcgggcggtagccgcgtggggccgctgCgcccagttacttgaaca  
gccagaaggaagtcctggaggaggaccgggcggagltggacaCggltgtcagacacaactaccagltggagctccg  
20 cagcaccttgcagcggcgag (SEQ ID NO:212)

DQB1\*0309

ggccatgtgctacttcaccaacgggacggagcgcgltcggtctgtgaccagatataataaccgagaggagttac  
gcacgttcgacagcgacgtggagggtgtaccggcggtagccgcgtggggccgctgacgccgagttacttgaaca  
gccagaaggaagtcctggaggaggaccgggcggagltggacacggltgtcagacacaactaccagltggagctccg  
25 cagcaccttgcagcggcgagltggagcccacagtgaccatctcccatccaggacagaggccctcaaccaccacaac  
ctgctggctcgtcagtgacagattctatccagcccagatcaaagtcgggtgttctggaaatgaccaggaggaga  
caaccggcgttgtgtccaccccccttattaggaacggtagctggacctccagatcctgggtgtgtctggaaatgac

tccccagcatgcC...gtctacacctgccacgtggagcaccacagccctccagaacccaatcaccgtggagtg (SE  
Q ID NO:213)

DQB1\*0310

ggccatgtgctacctcaccaacgggacggagcgcggtgcgttaigtgaccagatacatctataaccgagaggagtac  
5 gcacgcttcgacagcgacgtgggggtgtaTcgggcggtagcggcgctggggccgcctgAcgccgagtagtggaaaca  
gccagaaggaagtcctggagaggacccggcgagtggtacacgggtgtagacacacaactaccagttggagctccg  
cacgaccttgcagcggcgagtgagcccacagtacacatctcccaatccaggacagaggccctcaaccaccacaac  
ctgctgggtctgctcagtagacagattctatccagcccagatcaaagtcgggtgggttcggaaatgaccaggaggaga  
caaccggcggtgtgtccaccccccttattaggaacggtagctggacctccagatccctggtagtctggaaatgac  
10 tccccagcAtggagaCgtctacacctgccacgtggagcaccacagccctccagaAcccaatcaccgtggagtg (SE  
Q ID NO:214)

DQB1\*0311

gggcctgtgctacctcaccaacgggacggagcgcggtgcgtcttigtgaccagatacatctataaccgagaggagtac  
gcAcgcttcgacagcgacgtgggggtgtaTcgggcggtagcggcgctggggccgcctgCgccgagtagtggaaaca  
15 gccagaaggaagtcctggagAggacccggcgagtggtacacgggtgtagacacacaactaccagttggagctccg  
cacgaccttgcagcggcgag (SEQ ID NO:215)

DQB1\*0312

ggccatgtgctacctcaccaacgggacggagcgcggtgcgtctTigtgaccagatacatctataaccgagaggagtac  
gcAcgcttcgacagcgacgtgggggtgtaTcgggcggtagcggcgctggggccgcctgAcgccgagtagtggaaaca  
20 gccagaaggaagtcctggagAggacccggcgagTtggtacacgggtgtagacacacaactaccagttggagctccg  
cacgaccttgcagcggcgag (SEQ ID NO:216)

DQB1\*0313

ggccatgtgctacctcaccaacgggacggagcgcggtgcgttaigtgaccagatacatctataaccgagaggagtac  
gcacgcttcgacagcgacgtggagggtgtagccggcggtgtagcggcgctggggccgcctgacgccgagtagtggaaaca  
25 gccagaaggaagAcctgagaggacccggcgagtggtacacgggtgtagacacacaactaccagttggagctccg  
cacgaccttgcagcggcgag (SEQ ID NO:217)

DQB1\*0401

gggcatgtgctacttcaccaacgggaccgagcTcgtgcgggtgtgaccagatataataaccgagaggagtag  
gcgcgttcgacagcgacgtgggggtgtatcgggcgtgacgccgtggggcggcttgacgccgagtagtggaata  
gccagaaggacatccaggaggaggaccgggcgtcgttgacaccgtatgcagacacaactaccagttggagctccg  
cacgaccttgacggcgagtaggagccacagtagcaatcctccatccaggacagaggccctcaaccaccacaac  
5 cgtcgtgtgtcgtcagtagacagatttctatccagcccagatcaaagtcgggtgttctggaaatgaccaggaggaga  
caactggcgtgtgtccaccccccttattaggaacggtagctggaccttcagatccgtgtgtgtcgtggaaatgac  
tccccagcgtggagacgtctacacctgccacgtggagcaccacagccctcagaacccccatcactgtggagtgg (SE  
Q ID NO:218)

DQB1\*0402

10 gggcatgtgctacttcaccaacgggaccgagcgcgtgcgggtgtgaccagatataataaccgagaggagtag  
gcgcgttcgacagcgacgtgggggtgtatcgggcgtgacgccgtggggcggcttgacgccgagtagtggaata  
gccagaaggacatccaggaggaggaccgggcgtcgttgacaccgtatgcagacacaactaccagttggagctccg  
cacgaccttgacggcgagtaggagccacagtagcaatcctccatccaggacagaggccctcaaccaccacaac  
ctgtcgtgtgtcgtcagtagacagatttctatccagcccagatcaaagtcgggtgttctggaaatgaccaggaggaga  
15 caactggcgtgtgtccaccccccttattaggaacggtagctggaccttcagatccgtgtgtgtcgtggaaatgac  
tccccagcgtggagacgtctacacctgccacgtggagcaccacagccctcagaacccccatcactgtggagtgg (SE  
Q-ID NO:219)

DQB1\*060101

ggccatgtgctacttcaccaaTgggacggagcgcgtgcgttatgtgaccagatataataaccgagaggaggac  
20 gtgcgttcgacagcgacgtgggggtgtatcgggcgtgacgccgcagggcgccctgacgccgagtagtggaaca  
gccagaaggacatccaggaggaggaccgagcggagtaggacacgggtgtgcagacacaactacgaggtaggcgtccg  
cgggatcttgacaggagagtaggagccacagtagcaatcctccatccaggacagaggccctcaaccaccacaac  
ctgtcgtgtgtcgtcagtagacagatttctatccagggcagatcaaagtcgggtgttctggaaatgaccaggaggaga  
cagctggcgtgtgtccaccccccttattaggaacggtagctggaccttcagatccgtgtgtgtcgtggaaatgac  
25 tccccagcgtggagacgtctacacctgccacgtggagcaccacagccctcagagccccatcacctggagtgg (SE  
Q ID NO:220)

DQB1\*060102

ggcaatgigtacttaccacacgggacggagcggtgcgttaatgaccagatacatctataaaccgagaggaggacg  
tgcgttcgacagcgacgtgggggtgtatcgggcggtgacCccgcagggcgggccigacgccgagtlaciggaacag  
ccagaaggacatccctggagaggacccgagcggagtlggacacgggtgtcaga (SEQ ID NO:221)

DQB1\*060103

- 5 ggccaatgigtacttaccacacgggacggagcggtgcgttaatgaccagatacatctataaaccgagaggaggac  
gtgcgttcgacagcgacgtgggggtgtatcgggcggtgacgccgcagggcgggccigacgccgagtlaciggaaca  
gccagaaggacatccctggagaggacccgagcggagtlggacacgggtgtcagacacaactacgaggltggcgttccg  
cgggatcttgcagaggagagtgaggccacagtgaccatctcccatccaggacagaggccctcaaccaccacaac  
ctgctgggtcgtcgggtgacagatttctatccaggccagatcaaagtcgggtggttccggaatgaccaggaAgaga  
10 cagctggcgttgtgtccaccccccttattaggaacgggtgacgtggacctccagatccctgggtgatgttgaaaatgac  
tccccagcatggagacgtctacacctgccacgtggagcaccacagccctccagagcccatcaccgtggagltgg (SE  
Q ID NO:222)

DQB1\*0602

- gggcaatgigtacttaccacacgggacggagcggtgcgtcttgtgaccagaTacaatctataaaccgagaggagtlac  
15 ggcgcttcgacagcgacgtgggggtgtaccgcggtgacgccgcagggcgggccigtatgccgagtlaciggaaca  
gccagaaggaagtccctggaggggacccgggcggagtlggacacgggtgtcagacacaactacgaggltggcgttccg  
cgggatcttgcagaggagagtgaggccacagtgaccatctcccatccaggacagaggccctcaaccaccacaac  
ctgctgggtcgtcgggtgacagatttctatccaggccagatcaaagtcgggtggttccggaatgacaggaggaga  
cagccggcgttgtgtccaccccccttattaggaatgggtgacgtggacTtccagatccctgggtgatgttgaaaatgac  
20 tccccagcgtggagatgtctacacctgccacgtggagcaccacagccctccagagcccatcaccgtggagltgg (SE  
Q ID NO:223)

DQB1\*0603

- gggcaatgigtacttaccacacgggacggagcggtgcgtcttgtAaccagacacatctataaaccgagaggagtlac  
ggcgcttcgacagcgacgtgggggtgtaccgcggtgacgccgcagggcgggccigtatgccgagtlaciggaaca  
25 gccagaaggaagtccctggaggggacccgggcggagtlggacacgggtgtcagacacaactacgaggltggcgttccg  
cgggatcttgcagaggagagtgaggccacagtgaccatctcccatccaggacagaggccctcaaccaccacaac  
ctgctgggtcgtcgggtgacagatttctatccaggccagatcaaagtcgggtggttccggaatgacaggaggaga

cagccggcgttggtgccaccccccttat taggaatggtagctggacTttccagatcctggtagctggaaatgac  
tccccagcgtggagatgtctacacctgccacgtggagcaccacagccctccagagccccatcacctggagtagg (SE  
Q ID NO:224)

DQB1\*060401

5 gggcattgtctacttcaccaacgggacggagcgcgtgcgtcttgtaaccagacacatctataaccgagaggagtag  
gcgcgcttcgacagcgacgtgggggtgtaccggcggtgacgccgcagggcgggccgtgtgccgagtagctggaaca  
gccagaaggaagtcctggagAggacccggcggtgtggacacgggtgtgcagacacaactacgaggtggggtagcg  
cgggatcctgcagaggagtagggagcccacagtaccatctccccatccaggacagaggccctcaaccaccacaac  
ctgcgtggctcgtcgtgtgacagatttctatccaggccagatcaaagtcAgtaggtttcggaatgtagcaggaggaga  
10 cagccggcgttggtgccaccccccttat taggaatggtagctggacTttccagatcctggtagctggaaatgac  
tccccagcgtggagatgtctacacctgccacgtggagcaccacagccctccagagccccatcacctggagtagg (SE  
Q ID NO:225)

DQB1\*060402

gggcattgtctacttcaccaacgggacggagcgcgtgcgtcttgtaaccagacacatctataaccgagaggagtag  
15 gcgcgcttcgacagcgacgtgggggtgtaccgcgcgtgacgccgcagggcgggccgtgtgccgagtagctggaaca  
gccagaaggaagtcctggagAggAcccggcggtgtggacacgggtgtgcagacacaactacgaggtggGtagcg  
cgggatcctgcagaggagtagggagcccacagtaccatctccccatccaggacagaggcc (SEQ ID NO:226)

DQB1\*060501

gggcctgtgtctacttcaccaacgggacggagcgcgtgcgtcttgtaaccagatacatctataaccgagaggagtag  
20 gcgcgcttcgacagcgacgtgggggtgtaccggcggtgacgccgcagggcgggccgtgtgccgagtagctggaaca  
gccagaaggaagtcctggagAggAcccggcggtgtggacacgggtgtgcagacacaactacgaggtggGtagcg  
cgggatcctgcagaggagtagggagcccacagtaccatctccccatccaggacagaggcc (SEQ ID NO:227)

DQB1\*060502

ggacggagcgcgtgcgtcttgtaaccagatacatctataaccgagaggagtagcgcgcttcgacagcgacgtggg  
25 ggtgtaccggcggtgacgccgcagggcgggccgtgtgccgagtagctggaacagccagaaggaagtcctggagAgg  
AcccggcggtgtggacaG (SEQ ID NO:228)

DQB1\*0606

ggacggagcgcgigcgtctgtAaccagaTacaTclataaccgagaggagTaccgcgcttcgacagcgacgtggg  
ggTgtaccggcggtgacgccgcagggcgccTgttgccgagTactggaacagccagaaggaagTccTggagAgg  
Acccgggcgcggtggacagggtg (SEQ ID NO:229)

DQB1\*0607

5 gggcatgtgctacttcaccaacgggacggagcgcgigcgtctgtAaccagacacaTclataaccgagaggagTac  
gcgcgcttcgacagcgacgtgggggtgtaccgcggtgacgccgcagggcgccTgttgccgagTactggaaca  
gccagaaggaagTccTggagAggAcccgggcggtgtggacacggtgtgcagacacaactacgaggTggGtaccg  
cgggatcc (SEQ ID NO:230)

DQB1\*0608

10 gggcatgtgctacttcaccaacgggacggagcgcgigcgtctgtAaccagacacaTclataaccgagaggagTac  
gcgcgcttcgacagcgacgtgggggtgtaccgcggtgacgccgcagggcgccTgttgccgagTactggaaca  
gccagaaggaagTccTggaggggacccggcggtgtggacacggtgtgcagacacaactacgaggTggcgttccg  
cgggatcT (SEQ ID NO:231)

DQB1\*0609

15 gggcatgtgctacttcaccaacgggacggagcgcgigcgtctgtAaccagaTacaTclataaccgagaggagTac  
gcgcgcttcgacagcgacgtgggggtgtaccggcggtgacgccgcagggcgccTgttgccgagTactggaaca  
gccagaaggaagTccTggagAggacccggcggtgtggacacggtgtgcagacacaactacgaggTgggtaccg  
cgggatccTgcagaggagTggagcccacagTgacacTccccTccaggacagaggccTcaaccaccacaac  
ctgtgtgtctgtcgtgacagatTctatccaggccagatcaaagTccAgTggtTtcggaatgatcaggaggaga

20 cagccggcgtTgtTccacccccTatTaggaaTggTgacTggacTtccagaTccTggTgTgtTggaaTgac  
TccccagcTggagatgtctacacTgccacTggagcaccTccagagccccTaccgtTggagTgg (SE  
Q ID NO:232)

DQB1\*0610

25 gggcatgtgctacttcaccaacgggacggagcgcgigcgtctgtgaccagatacaTclataaccgagaggagTac  
gcgcgcttcgacagcgacgtgggggtgtaccgcggtgacgccgcagggcgccTgttgccgagTactggaaca  
gccagaaggaagTccTggaggggacccggcggtgtggacacggtgtgcagacacaactacgaggTggcgttccg  
cgggatcTgcagaggagag (SEQ ID NO:233)

DQB1\*061101

gggcaatgtgctacttcaccaacgggacggagcgcgctgcgtcttgtgaccagaTacaatctataaccgagaggagtag  
gcgcgcttcgacagcgacgtgggggtgtaccgCgcggtgacgccgcagggcgggcctgAtgccgagtagtggaaca  
gccagaaggaagtcctggaggggacccgggcggagttggacacgggtgtgcagacacaactacgaggtggcgttccg

5 cgggatcTtgcagagg (SEQ ID NO:234)

DQB1\*061102

gggcaatgtgctacttcaccaacgggacggagcgcgctgcgtcttgtAaccagaTacaatctataaccgagaggagtag  
gcgcgcttcgacagcgacgtgggggtgtaccgCgcggtgacgccgcagggcgggcctgAtgccgagtagtggaaca  
gccagaaggaagtcctggaggggacccgggcggagttggacacgggtgtgcagacacaactacgaggtggcgttccg

10 cgggatcTtgcagaggagag (SEQ ID NO:235)

DQB1\*0612

gggcaatgtgctacttcaccaacgggacggagcgcgctgcgtcttgtAaccagaTacaatctataaccgagaggagtag  
gcgcgcttcgacagcgacgtgggggtgtaccggcggtgacgccgcagggcgggcctgttgccgagtagtggaaca  
gccagaaggaagtcctggaggggacccgggcggagttggacacgggtgtgcagacacaactacgaggtgggtaccg

15 cgggatcctgcagaggagagtgaggccacagtaccatctcccatccaggacagagggcccaaccaccacaac  
ctgctgggtctgctcggtagacagattctatccaggccagatcaaagtcAgtaggtttcggaatgatcaggaggaga  
cagccggcgttgtgtccacccccctattaggaaatggtagctggacttccagatccgttgatgtcggaaatgac  
tccccagcgtggagatgtctacactgccacgtggagcaccacagcctccagagcccatcaccgtggagtagg (SE  
Q ID NO:236)

20 DQB1\*0613

gggcaatgtgctacttcaccaacgggacggagcgcgctgcgtcttgtgaccagaTacaatctataaccgagaggagtag  
gcgcgcttcgacagcgacgtgggggtgtaccgCgcggtgacgccgcagggcgggcctgttgccgagtagtggaaca  
gccagaaggaagtcctggaggggacccgggcggagttggacacgggtgtgcagacacaactacgaggtggcgtTccg  
cgggat (SEQ ID NO:237)

25 DQB1\*0614

gggcaatgtgctacttcaccaacgggacggagcgcgctgcgtcttgtAaccagacacaatctataaccgagaggagtag  
gcgcgcttcgacagcgacgtgggggtgtaccgCgcggtgacgccgcagggcgggcctgAtgccgagtagtggaaca



gccagaaggaagtcctggaggggacccgggaggagttggacacgggtgicagacacaactacgaggtaggcgttccg  
cgggatcttgacagaggag (SEQ ID NO:238)

DQB1\*0615

gggcatgtgctacttcaccaacgggacggagcggtgcgtctgtgaccagaTacatctataaccgagaggaglac  
5 gcgcgcttcgacagcgacgtgggggtgtaccgcgggtgacgccgaggggaggccgtgAlgccgagtlactggaaca  
gccagaaggaagtcctggagAggAcccgggaggagttggacacgggtgicagacacaactacgaggtaggGtlaccg  
cgggatcctgcagaggag (SEQ ID NO:239)

DQB1\*0616

gggcatgtgctacttcaccaacgggacggagcggtgcgtctgtgaccagatataataaccgagaggaglac  
10 gcgcgcttcgacagcgacgtgggggtgtaccgcgggtgacgccgaggggaggccgtgAlgccgagAactggaaca  
gccagaaggaagtcctggaggggacccgggaggagttggacacgggtgicagacacaactacgaggtaggcgttccg  
cgggatcttgacagaggag (SEQ ID NO:240)

DQB1\*0617

gggcatgtgctacttcaccaacgggacggagcggtgcgtctgtgAaccagacacatctataaccgagaggaglac  
15 gcgcgcttcgacagcgacgtgggggtgtaccgggagggtgacgccgaggggaggccgtgtgccgagtlactggaaca  
gccagaaggaagtcctggagggggcccgggaggagttggacacgggtgicagacacaactacgaggtaggGtlaccg  
c (SEQ ID NO:241)

DQB1\*0618

gggcatgtgctacttcaccaacgggacggagcggtgcgtctgtgAaccagatataataaccgagaggaglac  
20 gcgcgcttcgacagcgacgtgggggtgtaccgggagggtgacgccgaggggaggccgtgtgccgagtlactggaaca  
gccagaaggaagtcctggagAggaccgggaggagttggacacgggtgicagacacaactacgaggtaggcgttccg  
cgggatcttgacagaggag (SEQ ID NO:242)

DQB1\*0619

gggcatgtgctacttcaccaacgggacggagcggtgcgtctgtgaccagatataataaccgagaggaglac  
25 gcgcgcttcgacagcgacgtgggggtgtTggggcggtgacgccgTggggaggccgtgAlgccgagtlactggaaca  
gccagaaggaagtcctggaggggacccgggaggagTggacacgggtgicagacacaactacgaggtaggcgttccg  
cgggatcttgacagaggag (SEQ ID NO:243)

DQB1\*0620

gggccctgtgctacitcaccaacgggacggagcgcgtgcgtcttltgaccagaTacaatclalaaccgagaggagtac  
gcgcgcttcgacagcgacgtgggggtgtaccgCgcggtgacccgcagggcgccctgAtgccgagtlacitgaaca  
gccagaaggaagtcctggaggggacccggcgagttggacacggltgtgcagacacaactacgaggtggcgtTccg

5 c (SEQ ID NO:244)

In the following, Probe Lists DQ1 and DQ2 are  
shown in Tables 17A, 17B-1 and 17B-2 and tables 18A,  
18B-1 and 18B-2 respectively. Tables 19A, 19B-1 and  
10 19B-2 and Tables 20A, 20B-1 and 20B-2 show Allele-  
Prove Lists.

Table 17A

Probe No.	Base Sequence
0	t gaa ttt gat gga gat gag G ( SEQ ID No: 1)
1	ggt gct tcc aga cac caG ( SEQ ID No: 2)
2	gg ttg tct gtg ggc ctc A ( SEQ ID No: 3)
3	cag ccc aac acc ctc atC ( SEQ ID No: 4)
4	g ctg agc aat ggg cac G ( SEQ ID No: 5)
5	ca gag act gtg gtc tgc A ( SEQ ID No: 6)
6	c cct tgt gga ggt gaa gG ( SEQ ID No: 7)
7	cct gtg gtc aac atc acC ( SEQ ID No: 8)
8	ccc tgt gga ggt gaa gG ( SEQ ID No: 9)
9	c ctg gag agg aag gag G ( SEQ ID No: 10)
10	tg cct ctg ttc cac aga C ( SEQ ID No: 11)
11	x ag cct gag att cca A ( SEQ ID No: 12)
12	gcc ctg acc acc gtg aC ( SEQ ID No: 13)
13	c acc ttc ctc cct tct gA ( SEQ ID No: 14)
14	tt aaa cgc tcc aac tct acT ( SEQ ID No: 15)
15	cc aga cac caa ggg ccC ( SEQ ID No: 16)
16	ca gtg ttt tcc aag tct ccT ( SEQ ID No: 17)
17	g cac tgg ggc ctg gac A ( SEQ ID No: 18)
18	g gtc tgc gcc ctg ggA ( SEQ ID No: 19)
19	ct gac cac gtt gcc tct tA ( SEQ ID No: 20)
20	c cta aaa cat aac ttg aac agT ( SEQ ID No: 21)
21	c aga caa ttt aga ttt gac cG ( SEQ ID No: 22)
22	tc acc ctc ctc cct tct T ( SEQ ID No: 23)
23	tg tac cag tct tac ggt cT ( SEQ ID No: 24)
24	ag gtg gag cac tgg ggA ( SEQ ID No: 25)
25	ggt ccc tct ggc cag tT ( SEQ ID No: 26)
26	cc aag tct ccc gtg acG ( SEQ ID No: 27)
27	gca ctg aca aac atc gcC ( SEQ ID No: 28)

Table 17B-1

Probe No.	Base Sequence
0	g ggg gtg tac cgg gCA ( SEQ ID No: 29)
1	cg cag ggg cgg cct gT ( SEQ ID No: 30)
2	ag ggg gcc cgg gcg T ( SEQ ID No: 31)
3	gg gcg tcg gtg gac aG ( SEQ ID No: 32)
4	gg gcg tcg gtg gac agA ( SEQ ID No: 33)
5	ca gat ttc tat cca agc caC ( SEQ ID No: 34)
6	gc gac gtg ggg gtg taT ( SEQ ID No: 35)
7	cg cag ggg cgg cct aG ( SEQ ID No: 36)
8	g cag ggg cgg cct agC ( SEQ ID No: 37)
9	cg cag ggg cgg cct gA ( SEQ ID No: 38)
10	g cag ggg cgg cct gaC ( SEQ ID No: 39)
11	g aag gac atc ctg gag gA ( SEQ ID No: 40)
12	g gac atc ctg gag agg aaA ( SEQ ID No: 41)
13	ct ccc cag cgt gga gaC ( SEQ ID No: 42)
14	c cgg tgg ttt cgg aat gG ( SEQ ID No: 43)
15	ctg ctg ggg ctg cct gA ( SEQ ID No: 44)
16	c ttc gac agc gac gtg gA ( SEQ ID No: 45)
17	cg ctg ggg ccg cct gA ( SEQ ID No: 46)
18	ct ccc cag cat gga gaC ( SEQ ID No: 47)
19	cac ccc agc ctc cag aA ( SEQ ID No: 48)
20	aac cga gag gag tac gCA ( SEQ ID No: 49)
21	g ctg ggg ccg cct gC ( SEQ ID No: 50)
22	agg acc cgg gcg gag T ( SEQ ID No: 51)
23	c ctc cag aac ccc atc aT ( SEQ ID No: 52)
24	cg gag cgc gtg cgt cT ( SEQ ID No: 53)
25	g acg ccg ctg ggg cC ( SEQ ID No: 54)
26	cag aag gaa gtc ctg gag A ( SEQ ID No: 55)
27	tac ttc acc aac ggg acC ( SEQ ID No: 56)

Table 17B-2

Probe No.

Base Sequence

28	cgg gcg gag ttg gac aC (SEQ ID No: 57)
29	cg tcg gtg gac acc gtA (SEQ ID No: 58)
30	gtg ggg gtg tat cgg gT (SEQ ID No: 59)
31	tg act ccc cag cat gcC (SEQ ID No: 60)
32	g gaa atg act ccc cag cA (SEQ ID No: 61)
33	gg aac agc cag aag gaa gA (SEQ ID No: 62)
34	acc aac ggg acc gag cT (SEQ ID No: 63)
35	g ccg ctg ggg cgg cT (SEQ ID No: 64)
36	cc atg tgc tac ttc acc aaT (SEQ ID No: 65)
37	tg tat cgg gcg gtg acC (SEQ ID No: 66)
38	g ttt cgg aat gac cag gaA (SEQ ID No: 67)
39	gtg cgt ctt gtg acc aga T (SEQ ID No: 68)
40	g gcg ttc cgc ggg atc T (SEQ ID No: 69)
41	t agg aat ggt gac tgg acT (SEQ ID No: 70)
42	gag cgc gtg cgt ctt gtA (SEQ ID No: 71)
43	ca ggc cag atc aaa gtc cA (SEQ ID No: 72)
44	c gtg ggg gtg tac cgC (SEQ ID No: 73)
45	ag gaa gtc ctg gag agg A (SEQ ID No: 74)
46	a cac aac tac gag gtg gG (SEQ ID No: 75)
47	gtg cgt ctt gta acc aga T (SEQ ID No: 76)
48	g cag ggg cgg cct gtC (SEQ ID No: 77)
49	c aac tac gag gtg gcg tT (SEQ ID No: 78)
50	g cgg cct gat gcc gag A (SEQ ID No: 79)
51	gg gcg gtg acg ccg cT (SEQ ID No: 80)
52	cg ctg ggg cgg cct gA (SEQ ID No: 81)
53	ggg acc cgg gcg gag T (SEQ ID No: 82)

Table 18A

Probe No.	Base Sequence
0	gga gat gag gag ttc tac g (SEQ ID No: 83)
1	c aga cac caG ggg cca tt (SEQ ID No: 84)
2	gtg ggc ctc Atg ggc att (SEQ ID No: 85)
3	c acc ctc atC tgt ctt gtg (SEQ ID No: 86)
4	aat ggg cac Gca gtc aca (SEQ ID No: 87)
5	g gtc tgc Acc ctg ggg (SEQ ID No: 88)
6	ga ggt gaa gGc att gtg g (SEQ ID No: 89)
7	c aac atc acC tgg ctg ag (SEQ ID No: 90)
8	gg aag gag Gct gCt tgg (SEQ ID No: 91)
9	ctg ttc cac aga Ctt aga c c ttt (SEQ ID No: 92)
10	gag att cca Aca cct atg tc (SEQ ID No: 93)
11	c acc gtg aCg agc cct t (SEQ ID No: 94)
12	ctc cct tct gAt gat gag at (SEQ ID No: 95)
13	c aac tct acI gct gct acc (SEQ ID No: 96)
14	c atc atc cGa ggc ctg c (SEQ ID No: 97)
15	c aag tct ccI gtg acg ct (SEQ ID No: 98)
16	ggc ctg gac Aag cct ctt (SEQ ID No: 99)
17	c gcc ctg ggA ttg tct gt (SEQ ID No: 100)
18	gtt gcc tct tAt ggt gta aa (SEQ ID No: 101)
19	aac ttg aac agI ctg att aaa c (SEQ ID No: 102)
20	a cg ttt gac cGg caa ttt gca c (SEQ ID No: 103)
21	ctc cct tct Tct gag gag (SEQ ID No: 104)
22	ct tac ggt cTc tct ggc c (SEQ ID No: 105)
23	g cac tgg ggA ctg gac aa (SEQ ID No: 106)
24	ct ggc cag tTc acc cat g (SEQ ID No: 107)
25	ccc gtg acG ctg ggt c (SEQ ID No: 108)
26	ca aac atc gcC gtg aca aaa (SEQ ID No: 109)

Table 18B-1

Probe No.	Base Sequence
0	tac cgg gcA gtg acg cc (SEQ ID No: 110)
1	g cgg cct gTt gcc gag (SEQ ID No: 111)
2	c cgg gcg Tcg gtg gac (SEQ ID No: 112)
3	g gtg gac aGg gtg tgc a (SEQ ID No: 113)
4	g gtg gac agA gtg tgc ag (SEQ ID No: 114)
5	t cca agc caC atc aaa gtc (SEQ ID No: 115)
6	ggg gtg taI cgg gcg g (SEQ ID No: 116)
7	g cgg cct aGc gcc gag (SEQ ID No: 117)
8	cgg cct agC gcc gag t (SEQ ID No: 118)
9	g cgg cct gAc gcc gag (SEQ ID No: 119)
10	cgg cct gaC gcc gag t (SEQ ID No: 120)
11	g cgg cct gAt gcc gag (SEQ ID No: 121)
12	c ctg gag gAg gac cgg (SEQ ID No: 122)
13	gag agg aaA cgg gcg gc (SEQ ID No: 123)
14	g cgt gga gaC gtc tac ac (SEQ ID No: 124)
15	t cgg aat gGc cag gag g (SEQ ID No: 125)
16	g ctg cct gAc gcc gag (SEQ ID No: 126)
17	c gac gtg gAg gtg tac c (SEQ ID No: 127)
18	g ccg cct gAc gcc gag (SEQ ID No: 128)
19	g cat gga gaC gtc tac ac (SEQ ID No: 129)
20	gc ctc cag aAc ccc atc a (SEQ ID No: 130)
21	g gag tac gcA cgc ttc ga (SEQ ID No: 131)
22	ccg cct gCc gcc gag (SEQ ID No: 132)
23	gg gcg gag Ttg gac acg (SEQ ID No: 133)
24	ac ccc atc aTc gtg gag t (SEQ ID No: 134)
25	gc gtg cgt cTt gtg acc a (SEQ ID No: 135)
26	g ctg ggg cCg cct gac (SEQ ID No: 136)
27	c ctg gag Agg acc cgg (SEQ ID No: 137)

Table 18B-2

Probe No.	Base Sequence
28	aac ggg acC gag cgc g ( SEQ ID No: 138)
29	ag ttg gac aCg gtg tgc a ( SEQ ID No: 139)
30	g gac acc gtA tgc aga ca ( SEQ ID No: 140)
31	g tat cgg gTg gtg acg c ( SEQ ID No: 141)
32	cc cag cat gcC g t gtc tac ( SEQ ID No: 142)
33	t ccc cag cAt gga gac g ( SEQ ID No: 143)
34	ag aag gaa gAc ctg gag ag ( SEQ ID No: 144)
35	g acc gag cTc gtg cgg ( SEQ ID No: 145)
36	g ggg cgg cTt gac gcc ( SEQ ID No: 146)
37	c ttc acc aaT ggg acg ga ( SEQ ID No: 147)
38	gcg gtg acC ccg cag g ( SEQ ID No: 148)
39	t gac cag gaA gag aca gc ( SEQ ID No: 149)
40	t gtg acc aga Tac atc tat aa ( SEQ ID No: 150)
41	gc ggg atc Ttg cag agg ( SEQ ID No: 151)
42	t gac tgg acT ttc cag atc ( SEQ ID No: 152)
43	g cgt ctt gtA acc aga cac ( SEQ ID No: 153)
44	tc aaa gtc cAg tgg ttt cg ( SEQ ID No: 154)
45	gtg tac cgC gcg gtg ac ( SEQ ID No: 155)
46	g gag agg Acc cgg gcg ( SEQ ID No: 156)
47	c gag gtg gGg tac cgc ( SEQ ID No: 157)
48	g cgt ctt gtA acc aga tac ( SEQ ID No: 158)
49	t gta acc aga Tac atc tat aac ( SEQ ID No: 159)
50	cgg cct gtC gcc gag t ( SEQ ID No: 160)
51	c cgg gcg gAg ttg gac ( SEQ ID No: 161)
52	g gtg gcg tTc cgc ggg ( SEQ ID No: 162)
53	gat gcc gag Aac tgg aac ( SEQ ID No: 163)
54	acg ccg cTg ggg cgg ( SEQ ID No: 164)



Table 19A

Allele Number	Probe Number for Detection		
DQA1*010101	0		
DQA1*010102	1		
DQA1*010201	2		
DQA1*010202	3	2	
DQA1*0103	4		
DQA1*010401	5		
DQA1*010402	6	7	
DQA1*0105	8		
DQA1*0106	9		
DQA1*0201	10		
DQA1*030101	11		
DQA1*0302	12		
DQA1*0303	13		
DQA1*040101	14	15	
DQA1*040102	16		
DQA1*050101	17	18	
DQA1*050102	19	20	
DQA1*0502	21		
DQA1*0503	22		
DQA1*0504	23		
DQA1*0505	24		
DQA1*060101	25	26	15
DQA1*060102	27		

Table 19B-1

Allele Number		Probe Number for Detection					
DQB1*050101	0	1	2	3			
DQB1*050102	4						
DQB1*050201	5						
DQB1*050202	6	7	8	4			
DQB1*050301	9	10	4				
DQB1*050302	6	11					
DQB1*0504	7	12					
DQB1*0201	13	14					
DQB1*0202	15	14					
DQB1*0203	16	15					
DQB1*030101	17	18	19	20			
DQB1*030102	17	18					
DQB1*0302	21	22	23	24			
DQB1*030302	18	23	24				
DQB1*030303	25	6	26	18	27	23	
DQB1*0304	17	22	19	20			
DQB1*030501	28	23					
DQB1*030502	6	22	27	29			
DQB1*0306	26	30					
DQB1*0307	31						
DQB1*0308	21	6	22	29			
DQB1*0309	32						
DQB1*0310	6	18	33	19	20		
DQB1*0311	21	6	22	27	29		
DQB1*0312	25	21	6	18	27	23	
DQB1*0313	34						
DQB1*0401	35						
DQB1*0402	36						
DQB1*060101	37						
DQB1*060102	38						
DQB1*060103	39						
DQB1*0602	40	41	42				
DQB1*0603	43	41	42				

Table 19B-2

Allele Number	Probe Number for Detection					
DQB1*060401	27	44				
DQB1*060402	43	45	27	46	47	
DQB1*060501	48	49	27	46	47	
DQB1*060502	48	50	27	46	51	
DQB1*0606	48	49	27	46		
DQB1*0607	43	11	27	46	47	
DQB1*0608	43	45	52			
DQB1*0609	49	27	44			
DQB1*0610	7	41				
DQB1*061101	40	45	11	52		
DQB1*061102	48	49	45	11	41	
DQB1*0612	49	44				
DQB1*0613	40	45	52			
DQB1*0614	43	45	11	41		
DQB1*0615	40	11	27	46	47	
DQB1*0616	53					
DQB1*0617	43	29				
DQB1*0618	48	27	41			
DQB1*0619	25	6	54	11	23	41
DQB1*0620	40	45	11			

Table 20A

Allele Number	Probe Number for Detection		
DQA1*010101	0		
DQA1*010102	1		
DQA1*010201	2		
DQA1*010202	3	2	
DQA1*0103	4		
DQA1*010401	5		
DQA1*010402	6	7	
DQA1*0105	6		
DQA1*0106	8		
DQA1*0201	9		
DQA1*030101	10		
DQA1*0302	11		
DQA1*0303	12		
DQA1*040101	13	14	
DQA1*040102	15		
DQA1*050101	16	17	
DQA1*050102	18	19	
DQA1*0502	20		
DQA1*0503	21		
DQA1*0504	22		
DQA1*0505	23		
DQA1*060101	24	25	14
DQA1*060102	26		

Table 20B-1

Allele Number	Probe Number for Detection					
	0	1	2	3		
DQB1*050101	0	1	2	3		
DQB1*050102	4					
DQB1*050201	5					
DQB1*050202	6	7	8	4		
DQB1*050301	9	10	4			
DQB1*050302	6	11				
DQB1*0504	7	12				
DQB1*0201	13	14				
DQB1*0202	15	14				
DQB1*0203	16	15				
DQB1*030101	17	18	19	20		
DQB1*030102	17	18				
DQB1*0302	21	22	23	24		
DQB1*030302	18	23	24			
DQB1*030303	25	6	26	18	27	23
DQB1*0304	17	22	19	20		
DQB1*030501	28	23				
DQB1*030502	6	22	27	29		
DQB1*0306	26	30				
DQB1*0307	31					
DQB1*0308	21	6	22	29		
DQB1*0309	32					
DQB1*0310	6	18	33	19	20	
DQB1*0311	21	6	22	27	29	
DQB1*0312	25	21	6	18	27	23
DQB1*0313	34					
DQB1*0401	35					
DQB1*0402	36					
DQB1*060101	37					
DQB1*060102	38					
DQB1*060103	39					
DQB1*0602	40	41	42			
DQB1*0603	43	41	42			

Table 20B-2

Allele Number	Probe Number for Detection					
DQB1*060401	27	44				
DQB1*060402	43	45	27	46	47	
DQB1*060501	48	49	27	46	47	
DQB1*060502	48	50	27	46	51	
DQB1*0606	48	49	27	46		
DQB1*0607	43	11	27	46	47	
DQB1*0608	43	45	52			
DQB1*0609	49	27	44			
DQB1*0610	7	41				
DQB1*061101	40	45	11	52		
DQB1*061102	48	49	45	11	41	
DQB1*0612	49	44				
DQB1*0613	40	45	52			
DQB1*0614	43	45	11	41		
DQB1*0615	40	11	27	46	47	
DQB1*0616	53					
DQB1*0617	43	29				
DQB1*0618	48	27	41			
DQB1*0619	25	6	54	11	23	41
DQB1*0620	40	45	11			

(Example 11)

Probes for identification of HLA-DR allele

Extraction of DNA from 1 ml of human blood was performed using GFX Genomic Blood DNA Purification  
5 Kit from Amersham Biosciences in the same manner as in Example 1.

Next, quantitative PCR was carried out in the same manner as in Example 1 except that probes in the probe list 1 in Tables 21-1 and 21-2 were used and 4  
10  $\mu$ l of the mixed primers consisting of 1  $\mu$ l each of respective solutions of the following primers (10 pmol/ $\mu$ l) and 4  $\mu$ l of ultra pure water were used:

AGAGTACTCCAAGAAACGTG (SEQ ID NO: 822)

CCGCTGCACCGTGAAGCT (SEQ ID NO: 823)

15 TCGCTGCACTGTGAAGCT (SEQ ID NO: 824)

CCTCTGCACTGTGAAGCT (SEQ ID NO: 825).

Referring to Amp Plot and Dissociation curves on a display of 5700 software, it was found that probes 62, 12, and 152 were amplified. Therefore, it  
20 was identified as DRB1\*040502 and DRB1\*130202 referring to the allele-probe list 1 (Tables 23-1 to 23-13).

(Example 12)

Extraction of DNA from 1 ml of human blood was  
25 performed in the same way as in Example 3. PCR of human HLA-DRB exon 2 was then performed in the same manner as in Example 2 except that 6  $\mu$ l of the mixed

primer consisting of 1  $\mu$ l each of the solutions containing the following sequences at 10 pmol/ $\mu$ l respectively, and 9  $\mu$ l of ultra pure water were used:

CCGGATCCTTCGTGTCCCCACAGCACG (SEQ ID NO: 826)

5 AACCCCGTAGTTGTGTCTGCA (SEQ ID NO: 827)

AGAGTACTCCAAGAAACGTG (SEQ ID NO: 822)

CCGCTGCACCGTGAAGCT (SEQ ID NO: 823)

TCGCTGCACTGTGAAGCT (SEQ ID NO: 824)

CCTCTGCACTGTGAAGCT (SEQ ID NO: 825).

10 At the same time, a DNA microarray was prepared to identify the allele in the specimen described above in the same manner as in Example 2, except that probes in the probe list of Tables 22-1 to 22-7 were used to form the probe spots respectively.

15 Then, hybridization was performed using the above specimen and the prepared DNA microarray in the same manner as in Example 2. The fluorometry measurement was conducted with GenePix4000B (Axon).

As a result it was found that probes 59, 133,  
20 and 134 were amplified. Therefore, it was identified as DRB1\*040502 and DRB1\*130202 referring to the allele-probe list 1 (Tables 24-1 to 24-13).

#### Allele list

25 DRB1\*010101 :

atggtgigicigaagctccclggaggctcctgcatgacagcgctgacagtacacigaaggigcigagctccccac  
tggcttggciggggacacccgaccacgttcttggcagcttaagttgaatgtcatttcttcaatgggacgga



gcgggtgcggttgc tggAagaTgcatctataaccaagaggagtCcg tgcgcttcgacagcgacgtgggggaglac  
cgggcggtgacggagctggggcgcc tgaTgcCgagttac tggacagccagaaggacctctggagcagaggcggg  
ccgcggtggacaccttactgcagacacaactacggggttgGtgagagcttcacagtgcagcggcgag (SEQ ID  
NO: 1) ;

5 DRB1\*010102 :

cacgtttcttctggcagcttaagttgaatgtcatttcttcaatgggacggagcgggtgcggttgc tggaaagatg  
catctataaccaagaggatccgtgcgcttcgacagcgacgtgggggagtlaccgggcggtgacggagctggggcgg  
cctgatgccgagttactggacagccagaaggacctctggagcagaggcgggcccgcggtggacaccttactgcagac  
acaactacggggttggtgagagcttcacagtgcagcggcgag (SEQ ID NO: 2) ;

10 DRB1\*010201 :

ggggacacccgaccacgtttcttctggcagcttaagttgaatgtcatttcttcaatgggacggagcgggtgcggt  
tgc tggaaagatgcatctataaccaagaggagtcggtgcgcttcgacagcgacgtgggggagtlaccgggcggtgac  
ggagctggggcgccctgatgccgagttactggacagccagaaggacctctggagcagaggcgggcccgcggtggac  
acctatTgcagacacaactacggggCtg tggagagcttcacagtgcagcggcgag (SEQ ID NO: 3) ;

15 DRB1\*010202 :

cacgtttcttctggcagcttaagttgaatgtcatttcttcaatgggacggagcgggtgcggttgc tggaaagatg  
catctataaccaagaggagtcggtgcgcttcgacagcgacgtgggggagtlaccgggcggtgacggagctggggcgg  
cctgatgccgagttactggacagccagaaggacctctggagcagaggcgggcccgcGtggacaccttactgcagac  
acaactacggggctgttg (SEQ ID NO: 4) ;

20 DRB1\*0103 :

atgggtgtgtc tgaagctccc tggaggctcttgcattgacagcgctgacagtgacac tga tgggtgtc tga gctccccac  
tggctttggc tggggacacccgaccacgtttcttctggcagcttaagttgaatgtcatttcttcaatgggacgga  
gcgggtgcggttgc tggaaagatgcatctataaccaagaggagtcggtgcgcttcgacagcgacgtgggggagtlac  
cgggcggtgacggagctggggcgccctgatgccgagttactggacagccagaaggacAtcctggaagacGAgcggg

25 ccgcggtggacaccttactgcagacacaactacggggttggtgagagcttcacagtgcagcggcgag (SEQ ID  
NO: 5) ;

DRB1\*0104 :

ggggacacccgaccacgtttcttggcagcttaagttgaaatgcatttcttcaatgggacggagcgggtgcggt  
tgc tggaaagatgcatctataaccaagaggagtcctgcttgcacagcgacgtgggggagtagcggcggtgac  
ggagctggggcggccctgagccgagtagtgaacagccagaaggacctctggagcagaggcggccgctggac  
aaTtactgcagacacaactacggggttggGgagagcttcacagtcagcggcgag (SEQ ID NO: 6) ;

5 DRB1\*0105 :

cacgtttcttggcagcttaagttgaaatgcatttcttcaatgggacggagcgggtgcggttgc tggaaagatg  
catctataaccaagaggagtcctgcttgcacagcgacgtAgggagtagcggcggtgacggagctggggcgg  
ccctgagccgagtagtgaacagccagaaggacctctggagcagaggcggccgctggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 7) ;

10 DRB1\*0106 :

cacgtttcttggcagcttaagttgaaatgcatttcttcaatgggacggagcgggtgcggttgc tggaaagatg  
catctataaccaagaggagtcctgcttgcacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccctgagccgagtagtgaacagccagaaggacctctggagcaggCcgggccgctggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 8) ;

15 DRB1\*0107 :

cacgtttcttggGagcttaagttgaaatgcatttcttcaatgggacggagcgggtgcggttgc tggaaagatg  
catctataaccaagaggagtcctgcttgcacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccctgagccgagtagtgaacagccagaaggacctctggagcagaggcggccgctggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 9) ;

20 DRB1\*0108 :

cacgtttcttggcagcttaagttgaaatgcatttcttcaatgggacggagcgggtgcggttgc tggaaagatg  
catctataaccaagaggagtagtgccttgcacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccctgagccgagtagtgaacagccagaaggacctctggagcagaggcggccgctggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 10) ;

25 DRB1\*0109 :

cacgtttcttggcagcttaagttgaaatgcatttcttcaatgggacggagcgggtgcggttgc tggaaagatg  
catctataaccaagaggagtcctgcttgcacagcgacgtgggggagtagcggcggtgacggagctggggcgg

ccatgatgccgaglacatggaacagccagaaggacctccatggagcagGCgcgggcccggatggacacctactgcagac  
acaactacggggatggatgagagcttcacagtcagcggcgag (SEQ ID NO: 11) ;

DRB1\*0110 :

cacgtttcttggcagcttaagtttgaatgtcatttcttcaatgggacggagcgggtgcggttgctggaaagatg  
5 calctataaccaagaggagtcggtgcgcttcgacagcgacgtgggggagttaccgggaggatgacggagctggggcgg  
ccatgatgccgaglacatggaacagccagaaggacctccatggagcagaAgcgggcccggatggacacctactgcagac  
acaactacggggatggatgagagcttcacagtcagcggcgag (SEQ ID NO: 12) ;

DRB1\*030101 :

ggggacaccagaccacgtttcttggagttactctacgtctgagtgcatttcttcaatgggacggagcgggtgcggt  
10 AcctggacagatattcCataaccaggaggagAACgtgcgcttcgacagcgacgtgggggagttccgggaggatgac  
ggagctggggcggccatgatgccgagttatggaacagccagaaggacctccatggagcagaagcggggccGggtggac  
aActactgcagacacaactacggggatgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 13) ;

DRB1\*030102 :

cacgtttcttggagttactctacgtctgagtgcatttcttcaatgggacggagcgggtgcggtacctggacagata  
15 ctccataaccaggaggagaacgtgcgcttcgacagcgacgtgggggagttccgggaggatgacggagctggggcgg  
ccatgatgccgagttatggaacagccagaaggacctccatggagcagaagcggggccGggtggacaaTtactgcagac  
acaactacggggatgtGgagagcttcacagtcagcg (SEQ ID NO: 14) ;

DRB1\*030201 :

ggggacaccagaccacgtttcttggatgtactctacgtctgagtgcatttcttcaatgggacggagcgggtgcggt  
20 tccatggaGagatattcCataaccaggaggagAACgtgcgcttcgacagcgacgtgggggagttaccgggaggatgac  
ggagctggggcggccatgatgccgagttatggaacagccagaaggacctccatggagcagaagcggggccGggtggac  
aActactgcagacacaactacggggatggatgagagcttcacagtcagcggcgag (SEQ ID NO: 15) ;

DRB1\*030202 :

ggggacaccagaccacgtttcttggatgtactctacgtctgagtgcatttcttcaatgggacggagcgggtgcggt  
25 tccatggaGagatattccataaccaggaggagAACgtgcgcttcgacagcgacgtgggggagttaccgggaggatgac  
ggagctggggcggccatgatgccgagttatggaacagccagaaggacctccatggagcagaagcggggccGggtggac  
aaTtactgcagacacaactacggggatggatgagagcttcacagtcagcggcgag (SEQ ID NO: 16) ;

DRB1\*0303 :

tactctacgtctgagtgctcatcttcaatgggacggagcgggtgcggttccctggaGagatcttcCataaccagg  
aggagAAcgtgcgcttcgacagcgacgtgggggagtlaccggcggtgacggagctggggcggccctgatgccgagta  
ctggaacagccagaaggaccttctggagcagaagcggggccGggtggacaActactgcagacacaactacgggggt  
5 gtGgagagcttcacagtcagcggcgga (SEQ ID NO: 17) ;

DRB1\*0304 :

cacgtttcttggagtactctacgtctgagtgctcatcttcaatgggacggagcgggtgcggtAccctggacagata  
cttcCataaccaGaggagctccgtgcgcttcgacagcgacgtgggggagTccggcggtgacggagctggggcgg  
ccctgatgccgagtlactggaacagccagaaggaccttctggagcagaagcggggccGggtggacaActactgcagac  
10 acaactacgggggtgtGgagagcttcacagtcagcggcgga (SEQ ID NO: 18) ;

DRB1\*030501 :

cacgtttcttggagtactctacgtctgagtgctcatcttcaatgggacggagcgggtgcggtAccctggacagata  
cttcCataaccaggaggagAAcgtgcgcttcgacagcgacgtgggggagTccggcggtgacggagctggggcgg  
ccctgatgccgagtlactggaacagccagaaggaccttctggagcagaagcggggccGggtggacaActactgcagac  
15 acaactacgggggtgggtgagagcttcacagtcagcggcgga (SEQ ID NO: 19) ;

DRB1\*030502 :

cacgtttcttggagtactctacgtctgagtgctcatcttcaatgggacggagcgggtgcggtaccctggacagata  
cttcCataaccaggaggagaacgtgcgcttcgacagcgacgtgggggagTccggcggtgacggagctggggcgg  
ccctgatgccgagtlactggaacagccagaaggaccttctggagcagaagcggggccgggtggacaActactgcagac  
20 acaactacgggggtgggtgagagcttcacGgtgcagcggcgga (SEQ ID NO: 20) ;

DRB1\*0306 :

tctctggagtactctacgtctgagtgctcatcttcaatgggacggagcgggtgcggtAccctggaCagatcttcC  
ataaccaggaggagAAcgtgcgcttcgacagcgacgtgggggagtlaccggcggtgacggagctggggcggccctga  
tgccgagtlactggaacagccagaaggaccttctggagcagaagcggggccGggtggacaActactgcagacacaac  
25 tacgggggtgtGgagagcttcacagtcag (SEQ ID NO: 21) ;

DRB1\*0307 :

ggggacaccagaccacgtttcttggagtactctacgtctgagtgctcatcttcaatgggacggagcgggtgcggt

tcctggacagatacttccataaccaggaggagAacgtgcgcttcgacagcgacgtgggggagtTccgggcggtagc  
ggagctggggcggccctgaigccgagtagtgaacagccagaaggacctccctggagcagaagcggggccGggtggac  
aActactgcagacacaactacggggtagtGgagagcttcacagtcagcggcgag (SEQ ID NO: 22) ;  
DRB1\*0308 :

5 ggggacaccagaccacgtttcttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggt  
acctggacagatacttccataaccaggaggagAacgtgcgcttcgacagcgacgtgggggagtTccgggcggtagc  
ggagctggggcggccctgaigAGgagtagtgaacagccagaaggacctccctggagcagaagcggggccGggtggac  
aActactgcagacacaactacggggtagtGgagagcttcacagtcagcggcgag (SEQ ID NO: 23) ;  
DRB1\*0309 :

10 ttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggtacctggacagatacttccata  
accGggaggagaacgtgcgcttcgacagcgacgtgggggagtTccgggcggtagcggagctggggcggccctgaigc  
cgagtagtgaacagccagaaggacctccctggagcagaagcggggccgggtggacaactactgcagacacaactac  
ggggttggtagagcttcacagtcagcgg (SEQ ID NO: 24) ;  
DRB1\*0310 :

15 ggggacaccagaccacgtttcttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggt  
acctggacagatacttccataaccaggaggagaacgtgcgcttcgacagcgacgtgggggagtTccgggcggtagc  
ggagctggggcggccctgCtgcggagcactgaacagccagaaggacctccctggagcagaagcggggccGggtggac  
aActactgcagacacaactacggggtagtGgagagcttcacagtcagcggcgag (SEQ ID NO: 25) ;  
DRB1\*0311 :

20 cactttcttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggtAccctggacagata  
cttccataaccaggaggagaacgtgcgcttcgacagcgacgtgggggagtTccgggcggtagcggagctggggcgg  
ccctgaigccgagtagtgaacagccagaaggacctccctggagcagaagcggggccAGgtggacaActactgcagac  
acaactacggggtagtGgagagcttcacagtcagcggcga (SEQ ID NO: 26) ;  
DRB1\*0312 :

25 ttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggtacctggacagatacttccata  
accaggaggagaacgtgcgcttcgacagcgacgtgggggagtTccgggcggtagcggagctggggcggccctagCgc  
cgagtagtgaacagccagaaggacctccctggagcagaagcggggccGggtggacaActactgcagacacaactac

ggggltgtGgag (SEQ ID NO: 27) ;

DRB1\*0313 :

cacgtttcttggagtactctacgtctgagtgctatcttcaatgggacggagcgggtgcggtacctggacagata  
cttccataaccaggaggagaacgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
5 cctgatgccgagtcctggaacagccagaaggacctcttggagcagaagcggggccGggtggacaActactgcagac  
acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 28) ;

DRB1\*0314 :

cacgtttcttggagtactctacgtctgagtgctatcttcaatgggacggagcgggtgcggtAccitggacagata  
cttccataaccaggaggagAACgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
10 cctgatgccgagtcctggaacagccagaaggacctcttggagcagaagcggggccGggtggacacctactgcagac  
acaactacggggttgtgagagcttcacagtcagcggcgag (SEQ ID NO: 29) ;

DRB1\*0315 :

cacgtttcttggagtactctacgtctgagtgctatcttcaatgggacggagcgggtgcggtAccitggacagata  
cttccataaccaggaggagAACgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
15 cctgatgccgagtcctggaacagccagaaggacctcttggagcagaagcggggccGggtggacacctactgcagac  
acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 30) ;

DRB1\*0316 :

cacgtttcttggagtactctacgtctgagtgctatcttcaatgggacggagcgggtgcggtacctggacagata  
cttccataaccaggaggagaacgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
20 cctgatgccgagtcctggaacagccagaaggacctcttggagcagaagcggggccgggtggacaactactgcagac  
acaactacggggttgtg (SEQ ID NO: 31) ;

DRB1\*0317 :

cacgtttcttggagtactctacgtctgagtgctatcttcaatgggacggagcgggtgcggttccitggaCagata  
cttctataaccaagaggagAACgtgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
25 cctgatgccgagtcctggaacagccagaaggacctcttggagcagaagcggggccaggltggacaaTtactgcagac  
acaactacggggttgtgagagcttcacagtcagcggcgag (SEQ ID NO: 32) ;

DRB1\*0318 :

cacgtttcttggagttacttactgtctgagtgctatcttcttcaatgggacggagcgggtgcggtacctggacagata  
cttccataaaccaggaggagaacgtgctctcgacagcgacgtgCgggagttccgggcggtagcggagctggggcgg  
cctgaltgccgagttactggaacagccagaaggacctcttggagcagaagcggggccgggtggacaactactgcagac  
acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 3 3) ;

5 DRB1\*0319 :

cacgtttcttggagttacttactgtctgagtgctatcttcttcaatgggacggagcgggtgcggtacctggacagata  
cttccataaaccaggaggagaacgtgctctcgacagcgacgtgggggagttccgggcggtagcggagctggggcgg  
cctgaltgccgagttactggaacagccagaaggacctcttggagcagaagcggggccGggtggacaActactgcagac  
acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 3 4) ;

10 DRB1\*0320 :

cacgtttcttggagttacttactgtctgagtgctatcttcttcaatgggacggagcgggtgcggtacctggacagata  
cttccataaaccaggaggagaacgtgctctcgacagcgacgtgggggagttccgggcggtagcggagctggggcgg  
cctgaltgccgagttactggaacagccagaaggacctcttggagcagaagcggggccgggtggacaActactgcagac  
acaactacggggCtgtggagagcttcacagtcagcgg (SEQ ID NO: 3 5) ;

15 DRB1\*0321 :

cgtttcttggagttacttactgtctgagtgctatcttcttcaatgggacggagcgggtgcggtacctggacagatact  
ttccataaaccaggaggagttCgtgctctcgacagcgacgtgggggagttccgggcggtagcggagctggggcggcc  
tgaltgccgagttactggaacagccagaaggacctcttggagcagaagcggggccGggtggacaActactgcagacac  
aaactacggggttgtGgagagcttcacagtcagcggcga (SEQ ID NO: 3 6) ;

20 DRB1\*0322 :

tttcttggagttacttactgtctgagtgctatcttcttcaatgggacggagcgggtgcggtacctggacagatactt  
Gataaaccaggaggagaacgtgctctcgacagcgacgtgggggagttccgggcggtagcggagctggggcggcctg  
altgccgagttactggaacagccagaaggacctcttggagcagaagcggggccgggtggacaactactgcagacacaa  
ctacggggttgtggagagcttcacagtcagcggcgag (SEQ ID NO: 3 7) ;

25 DRB1\*0323 :

cacgtttcttggagttacttactgtctgagtgctatcttcttcaatgggacggagcgggtgcggtacctggacagata  
cttccataaaccGggaggagaacgtgctctcgacagcgacgtgggggagttccgggcggtagcggagctggggcgg

cctgaltgccgagtlacttggaacagccagaaggacctccitggagcagaagcggggccgggtggacaactactgcagac  
acaactacggggltgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 38) ;

DRB1\*0324 :

cacgtttcttggagtlacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttccitggacagata  
5 cttccataaaccaggaggagaacgtgcgcttcgacagcgacgtgggggagtTccgggcggtgacggagctggggcgg  
cctgaltgccgagtlacttggaacagccagaaggacctccitggagcagaagcggggcCAGgtggacaaTtactgcagac  
acaactacggggltgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 39) ;

DRB1\*0325 :

cacgtttcttggagtlacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggtAcctggacagata  
10 ctttCataaccaGgaggagtAcgtgcgcttcgacagcgacgtgggggagtTccgggcggtgacggagctggggcgg  
cctgaltgccgagtlacttggaacagccagaaggacctccitggagcagaagcggggcGggtggacaActactgcagac  
acaactacggggltgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 40) ;

DRB1\*040101 :

atgggtgtgtcgaagTlccctggaggctccitgcatggcagctctgacagtgacactgatgggtgtgagctccccac  
15 tggctttggctggggacacccgaccacgtttcttggagcagggttaaacaatgagtgatcttcttcaacgggacgga  
gcgggtgcggttccitggacagatacttctatcaccaagaggagtagctgcgcttcgacagcgacgtgggggagtag  
cgggcggtgacggagctggggcggcctgaltgccgagtlacttggaacagccagaaggacctccitggagcagaAgcggg  
ccgcggltggacacclactgcagacacaactacggggltggtagagcttcacagtcagcggcgag (SEQ ID  
NO: 41) ;

20 DRB1\*040102 :

cacgtttcttggagcagggttaaacaatgagtgatcttcttcaacgggacggagcgggtgcggttccitggacagata  
cttctatcaccaagaAgagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtgacggagctggggcgg  
cctgaltgccgagtlacttggaacagccagaaggacctccitggagcagaagcgggccggtggacacclactgcagac  
acaactacggggltggtagagcttcacagtcagcggcgag (SEQ ID NO: 42) ;

25 DRB1\*0402 :

atgggtgtgtcgaagTlccctggaggctccitgcatggcagctctgacagtgacactgatgggtgtgagctccccac  
tggctttggctggggacacccgaccacgtttcttggagcagggttaaacaatgagtgatcttcttcaacgggacgga



gcgggigcgggttcctggacagatacttctatcaccaagaggagtagctgcgcttcgacagcgacgtgggggagtag  
cgggcggtagcggagctggggcggcctgatgccgagtagctggaacagccagaaggacatccctggaagacgAgcggg  
ccgcggtagcacctactgcagacacaactacgggggttgtGgagagcttcacagtagcagcggcgag (SEQ ID  
NO: 4 3) ;

5 DRBI\*040301 :

ggggacacccgaccacgtttcttggagcagggtaaaCatgagtgtagtttcttcaacgggacggagcgggtgcgggt  
tccctggacagatacttctatcaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagc  
ggagctggggcggcctgatgccgagtagctggaacagccagaaggacctcctggagcagaggcgggcccAggtggac  
acctactgcagacacaactacgggggttgtGgagagcttcacagtagcagcggcgag (SEQ ID NO: 4 4) ;

10 DRBI\*040302 :

cacgtttcttggagcagggtaaaCatgagtgtagtttcttcaacgggacggagcgggtgcgggttccctggacagata  
cttctatcaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctgacgcTgagtagctggaacagccagaaggacctcctggagcagaggcgggcccAggtggacacctactgcagac  
acaactacgggggttgtGgagagcttcacagtagcagcggcgag (SEQ ID NO: 4 5) ;

15 DRBI\*0404 :

atgggtgtgtctgaagTtcccggaggcttctgcatggcagctctgacagtagacactgatgggtgtgagctccccac  
tggcttggctggggacacccgaccacgtttcttggagcagggttaaacatgagtgtagtttcttcaacgggacgga  
gcgggtgcgggttccctggacagatacttctatcaccaagaggagtagctgcgcttcgacagcgacgtgggggagtag  
cgggcggtagcggagctggggcggcctgatgccgagtagctggaacagccagaaggacctcctggagcagaggcggg

20 ccgcggtagcacctactgcagacacaactacgggggttgtGgagagcttcacagtagcagcggcgag (SEQ ID  
NO: 4 6) ;

DRBI\*040501 :

ggggacacccgaccacgtttcttggagcagggtaaaCatgagtgtagtttcttcaacgggacggagcgggtgcgggt  
tccctggacagatacttctatCaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagc  
ggagctggggcggccttGgccgagtagctggaacagccagaaggacctcctggagcagaggcgggcccgggtggac  
acctactgcagacacaactacgggggttgtGgagagcttcacagtagcagcggcga (SEQ ID NO: 4 7) ;

DRBI\*040502 :

cacgtttcttggagcagggttaaaca|gagtg|catttcttcaacgggacggagcgggtcggtttcc|ggacagata  
cttctatcaccaagaggag|acgt|gcG|tcgacagcgacgt|gggggag|accgggcgg|tacggagct|ggggcgg  
cctagcgccgag|act|ggaacagccagaaggacc|cctggagcagaggcggggccgcgg|ggacacct|actgcagac  
acaact|acgggg|tggt|gagagct|cacagtgcagcggcgag (SEQ ID NO: 48) ;

5 DRB1 #040503 :

cacgtttcttggagcagggttaaaca|gagtgtcatttcttcaacgggacggagcgggtcggttcc|ggacagata  
cttctatcaccaagaggag|acgttgccttcgacagcgacgt|gggggag|accgggcgg|gacggagct|ggggcgg  
ccttagcgccgag|acttgaacagccagaaggacctcc|ggagcagaggcgggcccgg|ggacacct|actgcagac  
acaactacgggg|tggtagagcttcacagtgcagcgAcgag (SEQ ID NO: 49) ;

10 DRB1\*040504 :

cacgtttcttggagcagggttaaacaatgagtgctatcttctcaacgggacggagcgggtgcggttcttggacagata  
cttctatCaccaagaggagttacgtgcgtctgcacagcgcacgtgggggagttaccgggcggtgacggagctggggcgg  
cctagCgccgagttactggaacagccagaaggacctcttggagcagaggcggggccgcggtggacacctactgcagac  
acaactacgggggttggtgagagcttcacGgtgcagcggcgag (SEQ ID NO: 50) ;

15 DRB1\*0406 :

ggggacacccgaccacgttcttggagcagggtaaaCatgagtggtcatttcttcaacgggacggagcgggtgcggt  
tcttggacagatacttctatCaccaagaggagtccttgcgtctcgacagcgacgtgggggagtagcgggcggtgac  
ggagctggggcgccctgattgccgagtagtggaaacagccagaaggacctcttggagcagaggcgggcccAggtggac  
acctactgcagacacaacttaccgggttgttGgagagcttcacagtgacagcgcgag (SEQ ID NO: 51) ;

20 DRB1\*040701:

ggggacaccgaccacgttcttggagcaggttaaaCaigagtgicatttcttcaacgggacggagcgggtgcggt  
tcttggacagatacttctatcaccaagaggagtAcgtgcgtctgcacagcgacgtgggggagtagccgggcggtgac  
ggagctggggcggccigtatgccgagtagcgggaacagccagaaggacctctggagcagaggcgggccgAggtggac  
acctactgcagacacaaclacggggttggttgagagcttcacagtgacagcgccga (SEQ ID NO: 52) ;

25 DRB1\*040702 :

cacgtttcttggagcagglaaacatgagtgatcattcttcaacgggacggagcgggtgcggttcctggacagata  
cttctatcaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggctgacggagctggggcgg

ccatgagccgagtagctggaacagccagaaggacctccctggagcagagAcgggccgaggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtcagcgg(SAQ ID NO: 5 3) ;

DRBI\*0408 :

ttctctggagcaggttaaACAagagtgatcttcttcaacgggacggagcgggtgcggttccctggacagatacttc  
5 tatCaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggcctg  
atgccgagtagctggaacagccagaaggacctccctggagcagagggcggccggtggacacctactgcagacacaa  
ctacggggttggtgagagcttcacagtcagcggcgag(SAQ ID NO: 5 4) ;

DRBI\*0409 :

tgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagatacttctatCaccaagaggagtagctg  
10 cgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggcctaGcgccgagtagctggaacagcc  
agaaggacctccctggagcagaAgcgggccggtggacacctactgcagacacaaactacggggttggtgagag(SE  
Q ID NO: 5 5) ;

DRBI\*0410 :

ttctctggagcaggttaaacaatgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagatacttc  
15 tatCaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggccta  
Gcgccgagtagctggaacagccagaaggacctccctggagcagagggcggccggtggacacctactgcagacacaa  
ctacggggttggtGgagagcttcacagtcagcggcgag(SAQ ID NO: 5 6) ;

DRBI\*0411 :

atggtgtgtctgaagTtccctggaggctccctgcatggcagcttcgacagtagacctgattggtgtgagctcccccac  
20 tggcttggctggggacacccgaccagcttcttggagcaggttaaacaatgagtgatcttcttcaacgggacgga  
gcgggtgcggttccctggacagatacttctatcaccaagaggagtagctgcgcttcgacagcgacgtgggggagtag  
cgggcggtagcggagctggggcggcctagcgccgagtagctggaacagccagaaggacctccctggagcagagggcgg  
ccgAggtggacacctactgcagacacaaactacggggttggtGgagagcttcacagtcagcggcgag(SAQ ID  
NO: 5 7) ;

25 DRBI\*0412 :

ttctctggagcaggttaaacaatgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagatacttct  
atCaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggcctaG

cgccgagtlactlgaacagccagaaggacAtcctlgaagacaggcgggccTggaggacacctactgcagacacaac  
tacgggggttgtGgagagcttcacagtcagcgg (SEQ ID NO: 58) ;

DRB1\*0413 :

catgagtgicatttcttcaacgggacggagcgggtgcggttccaggacagatacttctatCaccaagaggagtagc  
5 tgcgttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgccctgatgccgagtaglgaacag  
ccagaaggaccttctggagcagaAgcggggccgcggtggacacctactgcagacacaactacgggggttgtGgagagc  
ttcaca (SEQ ID NO: 59) ;

DRB1\*0414 :

tgagtgicatttcttcaacgggacggagcgggtgcggttccaggacagatacttctatCaccaagaggagtagtg  
10 cgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgccctgatgccgagtaglgaacagcc  
agaaggacAtcctlgaagacGAgcggggccgcggtggacacctactgcagacacaactacgggggttgtgagag (SE  
Q ID NO: 60) ;

DRB1\*0415 :

cacgttcttggagcaggtaaaCatgagtgicatttcttcaacgggacggagcgggtgcggttccaggacagata  
15 ctctatcaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcg  
ccctgatgaGgagtaglgaacagccagaaggacTtctlgaagaCaggcggggccgcggtggacacctactgcagac  
acaactacgggggttgtGgagag (SEQ ID NO: 61) ;

DRB1\*0416 :

atgagtgicatttcttcaacgggacggagcgggtgcggttccaggacagatacttctatcaccaagaggagtagct  
20 gcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgccctgatgccCagtaglgaacagc  
cagaaggaccttctggagcagaagcggggccgcggtggacacctactgcagacacaactacgggggttgtg (SEQ  
ID NO: 62) ;

DRB1\*0417 :

atgagtgicatttcttcaacgggacggagcgggtgcggttccaggacagatacttctatCaccaagaggagtagct  
25 gcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgccctgaGcggcagtaglgaacagc  
cagaaggaccttctggagcagaaggcggggccgAggtggacacctactgcagacacaactacgggggttgtg (SEQ ID  
NO: 63) ;

DRB1\*0418 :

atgagtgatcatttcttcaacgggacggagcgggtgcggttccggacagatacttctatCaccaagaggagtagt  
gcgcttcgacagcgacgtgggggagtagcggcggtgacggagcggggcgccgatgccgagtagtgaacagc  
cagaaggacAtccgggaagacaggcggggccTggtggacacctactgcagacacaactacggggtgtGgagagct  
5 ttcacagtga (SEQ ID NO: 64) ;

DRB1\*0419 :

tttcttggagcagggttaaACAtagtgtagtatttcttcaacgggacggagcgggtgcggttccggacagatacttct  
tatCaccaagaggagtagcgtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagcggggcgccgtg  
atgccgagtagtgaacagccagaaggacctcctggagcagaggcggcgccgggtggacacctactgcagacacaa  
10 ctacggggttggtagagcttcacagtgcagcggcgag (SEQ ID NO: 65) ;

DRB1\*0420 :

atgagtgtagtatttcttcaacgggacggagcgggtgcggttccggacagatacttctatCaccaagaggagtagcgt  
gcgcttcgacagcgacgtgggggagtagcggcggtgacggagcggggcgccgatgccgagtagtgaacagc  
cagaaggacctcctggagcagaggcggggccAggtggacacctactgcagacacaactacggggtgtgt (SEQ  
15 ID NO: 66) ;

DRB1\*0421 :

gagcagggttaaacaatgagtgtagtatttcttcaacgggacggagcgggtgcggttccggacagatacttctatCacc  
aagaggagtagcgtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagcggggcgccgatgccga  
gtactggaacagccagaaggacctcctggagcagaAgcggggcgcggtggacacctactgcagacacaactacggg  
20 gtgtgtgtagagcttcacagt (SEQ ID NO: 67) ;

DRB1\*0422 :

gagcagggttaaacaatgagtgtagtatttcttcaacgggacggagcgggtgcggttccggacagatacttctatCacc  
aagaggagtagcgtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagcggggcgccgatgccga  
gtactggaacagccagaaggacctcctggagcagaagcggggccGgtggacaActactgcagacacaactacggg  
25 gtgtGgagagcttcaca (SEQ ID NO: 68) ;

DRB1\*0423 :

cacgttcttggagcagggttaaacaatgagtgtagtatttcttcaacgggacggagcgggtgcggttccggacagata

cttctatcaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccigtatgccgagtagtgaacagccagaaggaccttctggagcagaggcgggccgggtggacacctactgcagac  
acaactacggggtagtggagagattcacagtgcagcggcgag (SEQ ID NO: 69) ;

DRBI\*0424 :

5 cactttcttggagcaggtaaacaatgagtgicatttcttcaacgggacggagcgggtgcggttcttggacagata  
cttctatcaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccitacGcgccgagtagtgaacagccagaaggaccttctggagcGgaggcgggccgggtggacacctactgcagac  
acaactacggggtagtggagagcttcacagtgcagcggcgag (SEQ ID NO: 70) ;

DRBI\*0425 :

10 tggagcaggtaaacaatgagtgicatttcttcaacgggacggagcgggtgcggttcttggacagatacttctatC  
accaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcggccigtatgc  
cgagtagtgaacagccagaaggaccttcttgaagacaggcggggcccTggtggacacctactgcagacacaactac  
ggggttgtGgagag (SEQ ID NO: 71) ;

DRBI\*0426 :

15 cactttcttggagcaggtaaacaatgagtgicatttcttcaacgggacggagcgggtgcggttcttggacagata  
cttctatcaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccigtatAccgagtagtgaacagccagaaggaccttcttggagcagaagcgggccgggtggacacctactgcagac  
acaactacggggtagtggtag (SEQ ID NO: 72) ;

DRBI\*0427 :

20 cactttcttggagcaggtaaacaatgagtgicatttcttcaacgggacggagcgggtgcggttcttggacagata  
cttctatcaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccigtatgccgagtagtgaacagccagaaggaccttcttggagcagaggcgggccgAggtggacacctactgcagac  
acaactacggggcttggagagcttcacagt (SEQ ID NO: 73) ;

DRBI\*0428 :

25 cactttcttggagcaggtaaacaatgagtgicatttcttcaacgggacggagcgggtgcggttcttggacagata  
cttctatCaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccitacGcgccgagtagtgaacagccagaaggaccttcttggagcagaggcgggccgggtggacacctactgcagac

acaactacggggtlgtgagagcttcacagtcagcggcgag (SEQ ID NO: 7 4) ;

DRB1\*0429 :

cacgtttctlgtgagcaggttaaacaatgagtgicatttcttcaacgggacggagcgggtgcggtlccgtggacagata  
cttctatcaccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgaTggagctggggcgg  
5 cctagcggcgagtagctggaacagccagaaggacctcctggagcagaggcgggccggtggacacctactgcagac  
acaactacggggtlgtgagagcttcacagtcagcggcgag (SEQ ID NO: 7 5) ;

DRB1\*0430 :

cacgtttctlgtgagcaggttaaacaatgagtgicatttcttcaacgggacggagcgggtgcggtlccgtggacagata  
cttctatcaccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggTggtagcggagctggggcgg  
10 cctagcggcgagtagctggaacagccagaaggacctcctggagcagaggcgggccggtggacacctactgcagac  
acaactacggggtlgtgagagcttcacagtcagcggcgag (SEQ ID NO: 7 6) ;

DRB1\*0431 :

cacgtttctlgtgagcaggttaaacaatgagtgicatttcttcaacgggacggagcgggtgcggtlccgtggacagata  
cttctatCaccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcgg  
15 cctgtagccgagtagctggaacagccagaaggacctcctggagcagaggcgggccCTggtagcacctactgcagac  
acaactacggggtlgtgagagcttcacagtcagcggcgag (SEQ ID NO: 7 7) ;

DRB1\*0432 :

ttggagcaggttaaacaatgagtgicatttcttcaacgggacggagcgggtgcggtlccgtggacagatacttctatc  
accaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcggcctgtagc  
20 cgagtagccgagtagctggaacagccagaaggacctcctggagcagaggcAgggccggtggacacctactgcagacacaactac  
ggggtlgtggag (SEQ ID NO: 7 8) ;

DRB1\*0433 :

cacgtttctlgtgagcaggttaaacaatgagtgicatttcttcaacgggacggagcgggtgcggtlccgtggacagata  
cttctatcaccaagaggagtagctgcActtcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcgg  
25 cctgtagccgagtagctggaacagccagaaggacctcctggagcagaagcgggccggtggacacctactgcagac  
acaactacggggtlgtgagagcttcacagtcagcggcgag (SEQ ID NO: 7 9) ;

DRB1\*0434 :

tttcttggagcagggttaaaCCtgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagatacttct  
tataccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcggccctg  
atgccgagtagctggaacagccagaaggacctcttggagcagaAgcgggcccgggtggacacctactgcagacacaa  
ctacggggttggtga (SEQ ID NO: 80) ;

## 5 DRB1\*0435 :

cacgtttcttggagcagggttaaaCatgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagata  
cttctataccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcgg  
ccctgatgccgagtagctggaacagccagaaggacctcttggagcagaAgcgggcccgggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtg (SEQ ID NO: 81) ;

## 10 DRB1\*0436 :

cacgtttcttggagcagggttaaaCatgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagata  
cttctataccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcgg  
ccctgatgccgagtagctggaacagccagaaggacctcttggagaGaggcgggcccgggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtgacagcggcgag (SEQ ID NO: 82) ;

## 15 DRB1\*0437 :

cacgtttcttggagcagggttaaaCatgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagata  
cttctataccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcgg  
ccctgatgccgagtagctggaacagccagaaggacctcttggagaGaggcgggcccgggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtgacagcggcgag (SEQ ID NO: 83) ;

## 20 DRB1\*0438 :

cacgtttcttggagcagggttaaaCatgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagata  
cttctataccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcgg  
ccctgatgccgagtagctggaacagccagaaggacctcttggagcagaAgcgggcccgggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtgacagcggcgag (SEQ ID NO: 84) ;

## 25 DRB1\*0439 :

cacgtttcttggagcagggttaaaCatgagtgatcttcttcaacgggacggagcgggtgcggttccctggacagata  
cttctataccaagaggagtagctgcgttcgacagcgacgtgggggagtagcgggcgggtgacggagctggggcgg



ccatgatgccgagttacttggaacagccagaaggaccttcttgagcagaggcgggcccagggtggacacctactgcagac  
acaactacggggttgttgagagcttcacagtcagcgg (SEQ ID NO: 8 5) ;

DRB1\*0440 :

cacgtttcttggagcaggttaaacaatgagtgatcttcttcaacgggacggagcgggtgcggttcttggacagata  
5 cttctatcaccaagaggagttacgtgcgttcgacagcgacgtgggggagttaccggcggtgacggagctggggcgg  
ccatgatgccgagttacttggaacagccagaaggaccttcttgagcagaggcgggcccagggtggacacctactgcagac  
acaactacggggttgttgagagcttcacagtcagcgg (SEQ ID NO: 8 6) ;

DRB1\*0441 :

cacgtttcttggagcaggttaaaCaatgagtgatcttcttcaacgggacggagcgggtgcggttcttggacagata  
10 cttctatcaccaagaggagAACgtgcgttcgacagcgacgtgggggagttaccggcggtgacggagctggggcgg  
ccatgatgccgagttacttggaacagccagaaggaccttcttgagcagaggcgggcccAggtggacacctactgcagac  
acaactacggggttgttgagagcttcacagtcagcgg (SEQ ID NO: 8 7) ;

DRB1\*0442 :

cacgtttcttggagcaggttaaaCaatgagtgatcttcttcaacgggacggagcgggtgcggttcttggacagata  
15 cttctatcaccaagaggagttacgtgcgttcgacagcgacgtgggggagttccggcggtgacggagctggggcgg  
ccatgatgccgagttacttggaacagccagaaggaccttcttgagcagaggcgggcccagggtggacacctactgcagac  
acaactacggggttgttgagagcttcacagtcagcggcgg (SEQ ID NO: 8 8) ;

DRB1\*0443 ;

cacgtttcttggagcaggttaaaCaatgagtgatcttcttcaacgggacggagcgggtgcggttcttggacagata  
20 cttctatCaccaagaggagttacgtgcgttcgacagcgacgtgggggagttccggcggtgacggagctggggcgg  
ccatgatgccgagttacttggaacagccagaaggaccttcttgagcagaggcgggcccagggtggacacctactgcagac  
acaactacggggttgttgagagcttcacagtcagcgg (SEQ ID NO: 8 9) ;

DRB1\*0444 :

cacgtttcttggagcaggttaaacaatgagtgatcttcttcaacgggacggagcgggtgcggttcttggacagata  
25 cttctatCaccaagaggagttacgtgcgttcgacagcgacgtgggggagttaccggcggtgacggagctggggcgg  
ccatgatgccgagttacttggaacagccagaaggaccttcttgagcagaggcgggcccagggtggacaaTtactgcagac  
acaactacggggttgttgagagcttcacagtcagc (SEQ ID NO: 9 0) ;

DRB1\*070101 :

atgggtgtgtgaagctccctggaggctccgtgcaaggcagcttgacagtgacactgatgggtgtgtgagctccccac  
tggctttggctggggacacccAaccacgttccgtgtggcagggttaagataaagtgatcttcttcaacgggacgga  
gcgggtgcagttccgtgaaagactcttctataaccaggaggagttcgtgcgttcgacagcgacgtgggggagtac  
5 cgggcgggtgacggagctaggcggtgtgtcgtcgtgagttcgtggaacagccagaaggacatccgtggaggacaggcggg  
gcCagggtggacaccgtGtgacagacacaactacgggttgggtgagagcttcacagtcagcggcgag (SEQ ID  
NO: 9 1) ;

DRB1\*070102 :

cacgtttccgtgtggcagggttaaAtataaagtgatcttcttcaacgggacggagcgggtgcagttccgtgaaagact  
10 ctctataaccaggaggagttcgtgcgttcgacagcgacgtgggggagttaccgggcgggtgacggagctAgggcgg  
ccgtgtcgtcgtgagttcgtggaacagccagaaggacatccgtggaggacaggcggggccagggtggacaccgtGtgacac  
acaactacgggttgggt (SEQ ID NO: 9 2) ;

DRB1\*0703 :

cacgtttccgtgtggcagggttaagataaagtgatcttcttcaacgggacggagcgggtgcagttccgtgaaagTct  
15 ctctataaccaggaggagttcgtgcgttcgacagcgacgtgggggagttaccgggcgggtgacggagctagggcgg  
ccgtgtcgtcgtgagttcgtggaacagccagaaggacatccgtggaggacaggcggggccagggtggacaccgtgtgcagac  
acaactacgggttgggt (SEQ ID NO: 9 3) ;

DRB1\*0704 :

tttccgtgtggcagggttaagataaagtgatcttcttcaacgggacggagcgggtgcagttccgtgaaagactcttc  
20 tataaccaggaggagttcgtgcgttcgacagcgacgtgggggagttaccgggcgggtgacggagctAgggcggcctg  
tcgtcgtcgtgagttcgtggaacagccagaaggacatccgtggaggacaggcggggccagggtggacaaTtactgcagacaaa  
ctacgggttgggtgagagc (SEQ ID NO: 9 4) ;

DRB1\*0705 :

cacgtttccgtgtggcagggttaagataaagtgatcttcttcaacgggacggagcgggtgcagttccgtgaaagact  
25 ctctataaccaggaggagttcgtgcgttcgacagcgacgtgggggagttaccgggcgggtgacggagctagggcgg  
ccgtgtcgtcgtgagttcgtggaacagccGgaaggacatccgtggaggacaggcggggccagggtggacaccgtgtgcagac  
acaactacgggttgggtgagagcttcacag (SEQ ID NO: 9 5) ;

DRB1\*0706 :

cacgtttcctgtggcagggtaagtaaaagtgatcttcttcaacgggacggagcgggtgcagttcctggaaagact  
cttctataaaccaggaggagttcgtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctAgggcgg  
ccgtcgtcGgagtagtggaacagccagaaggacatccctggaggacaggcggggccaggtaggacaccgtGtgcagac  
5 acaactacggggttggtgagagcttcacagtgacggcgag (SEQ ID NO: 96) ;

DRB1\*0707 :

cacgtttcctgtggcagggtaagtaaaagtgatcttcttcaacgggacggagcgggtgcagttcctggaaagact  
cttctataaaccaggaggagttcgtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctagggTgg  
ccgtcgtccgagttcctggaaacagccagaaggacatccctggaggacaggcggggccaggtaggacaccgtgtgcagac  
10 acaactacggggttggtgagagcttcacagt (SEQ ID NO: 97) ;

DRB1\*080101 :

ggggacacccgaccacgtttcttggagtagcttctacgggtgagtgTatttcttcaatgggacggagcgggtgcggt  
tcttggacagatacttctataaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagc  
ggagctggggcgccctagCgccgagtagtggaacagccagaaggacTtcttgaagacaggcggggcccTggtggac  
15 acctactgcagacacaactacggggttggtgagagcttcacGgtgcagcgcgag (SEQ ID NO: 98) ;

DRB1\*080102 :

cacgtttcttggagtagcttctacgggtgagtgTatttcttcaatgggacggagcgggtgcggttcttggacagata  
Ttctataaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctagcggcgagtagtggaacagccagaaggacttcttgaagacaggcggggcccTggtggacacctactgcagac  
20 acaactacggggttggtgagagcttcacggtagcagcgcgag (SEQ ID NO: 99) ;

DRB1\*080201 :

atggtgtgtctgaggctccctggaggctcctgcatggcagTcttgacagtgacacigtatgggtgtgagctccccac  
tggctttggctggggacaccagaccacgtttcttggagtagcttctacgggtgagtgTatttcttcaatgggacgga  
gcgggtgcggttcttggacagatacttctataaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagc  
25 cgggcggtagcggagctggggcgccctgtagccgagtagtggaacagccagaaggacttcttgaagacaggcggg  
cccTggtggacacctactgcagacacaactacggggttggtgagagcttcacGgtgcagcgcgag (SEQ ID  
NO: 100) ;

DRB1\*080202 :

cacgtttcttggagtlactctacgggtgagtgTattttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagTAcgtgcgcttcgacagcgacgtgggggagtlaccgggcggtgacggagctggggcgg  
ccTgatgccgagtlactggaacagccagaaggacTtccTggaagacaggcggggcccTggtggacacctactgcagac  
5 acaactacggggttggTgagagcttcacagtcagcggcgag (SEQ ID NO: 1 0 1) ;

DRB1\*080203 :

cgttttcttggagtlactctacgggtgagtgTattttcttcaatgggacggagcgggtgcggttccitggacagatact  
ttctataaccaagaggagTAcgtgcgcttcgacagcgacgtgggggagtlaccgggcggtgacAgagctggggcggcc  
TgatgccgagtlactggaacagccagaaggacTtccTggaagacaggcggggcccTggtggacacctactgcagacac  
10 aactacggggttggTgagagcttcacggTg (SEQ ID NO: 1 0 2) ;

DRB1\*080302 :

ggggacaccagaccacgtttcttggagtlactctacgggtgagtgTattttcttcaatgggacggagcgggtgcggt  
tccitggacagatactttctataaccaagaggagTAcgtgcgcttcgacagcgacgtgggggagtlaccgggcggtgac  
ggagctggggcggccTgTgccgagtlactggaacagccagaaggacTtccTggaagacaggcggggcccTggtggac  
15 acctactgcagacacaaactacggggttggTgagagcttcacagtcagcggcgag (SEQ ID NO: 1 0 3) ;

DRB1\*080401 :

ggggacaccagaccacgtttcttggagtlactctacgggtgagtgTattttcttcaatgggacggagcgggtgcggt  
tccitggacagatactttctataaccaagaggagTAcgtgcgcttcgacagcgacgtgggggagtlaccgggcggtgac  
ggagctggggcggccTgatgccgagtlactggaacagccagaaggacTtccTggaagacaggcggggcccTggtggac  
20 acctactgcagacacaaactacggggttggTgagagcttcacagtcagcggcgag (SEQ ID NO: 1 0 4) ;

DRB1\*080402 :

ttcaatgggacggagcgggtgcggttccitggacagatactttctataaccaagaggagTAcgtgcgcttcgacagcg  
acgtgggggagtlaccgggcggtgacggagctggggcggccTgatgccgagtlactggaacagccagaaggacTtccT  
ggaagacaggcggggcccTggtggacacctactgcagacacaaactacggggttggTgagagcttcacagtcagcgg  
25 (SEQ ID NO: 1 0 5) ;

DRB1\*080403 :

cacgtttcttggagtlactctacgggtgagtgTattttcttcaatgggacggagcgggtgcggttccitggacagata

cttctataaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccitgaigccgagtagtggaaacagccagaaggacttccitggaagacaggcggggcccTggtggacacctactgcagac  
acaactacggggttgTigagagcttcacGgtgcagcggcgag (SEQ ID NO: 106) ;

DRBI\*080404 :

- 5 cactgttcttggagtagtctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccitgaigccgagtagtggaaacagccagaaggacttccitggaagacaggcggggcccTggtggacacctactgcagac  
acaactacggggttgTigagagcttcacGgtgcagcggcgag (SEQ ID NO: 107) ;

DRBI\*0805 :

- 10 cactgttcttggagtagtctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccitgaigccgagtagtggaaacagccagaaggacttccitggaagacaggcggggcccTggtggacacctactgcagac  
acaactacggggttgTigagagcttcacGgtgcagcggcgag (SEQ ID NO: 108) ;

DRBI\*0806 :

- 15 ccactgttcttggagtagtctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
acttctataaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
gcctgaigccgagtagtggaaacagccagaaggacttccitggaagacaggcggggcccTggtggacacctactgcagac  
cacaactacggggttgTigagagcttcacagtcagcggcgag (SEQ ID NO: 109) ;

DRBI\*0807 :

- 20 cactgttcttggagtagtctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgg  
ccitgtgcccagtagtggaaacagccagaaggacttccitggaagacaggcggggcccTggtggacacctactgcagac  
acaactacggggttgTigagagcttcacagtcagcggcgag (SEQ ID NO: 110) ;

DRBI\*0808 :

- 25 ttggagtagtctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagatacttctata  
accaagaggagtagtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcggccitgtgc  
ggagCactggaaacagccagaaggacttccitggaagacaggcggggcccTggtggacacctactgcagacacaactac

gggggtggtag (SEQ ID NO: 1 1 1) ;

DRB1\*0809 :

cacgtttcttggagtagtctacgggtgagtggtattttcttcaatgggacggagcgggtgcggttcttggacagata  
cttccataaaccaggaggagtTcgtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
5 cctgatgccgagtagtggaaacagccagaaggacTtcttggaaagacaggcggggcccTggtggacacctactgcagac  
acaactacgggggttggtagagcttcacGgtgcagcggcgag (SEQ ID NO: 1 1 2) ;

DRB1\*0810 :

cacgtttcttggagtagtctacgggtgagtggtattttcttcaatgggacggagcgggtgcggttcttggacagata  
cttctataaaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
10 cctacGcgccgagtagtggaaacagccagaaggacAtccttggaaagacaggcggggcccTggtggacacctactgcagac  
acaactacgggggttggtagagcttcacagtagcagcggcgag (SEQ ID NO: 1 1 3) ;

DRB1\*0811 :

cacgtttcttggagtagtctacgggtgagtggtattttcttcaatgggacggagcgggtgcggttcttggacagata  
cttctataaaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
15 cctgCtgccgagtagtggaaacagccagaaggacTtcttggaaagacaggcggggcccTggtggacacctactgcagac  
acaactacgggggttggtagagcttcacGgtg (SEQ ID NO: 1 1 4) ;

DRB1\*0812 :

cacgtttcttggagtagtctacgggtgagtggtattttcttcaatgggacggagcgggtgcggttcttggacagata  
cttctataaaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
20 cctagcgccgagtagtggaaacagccagaaggacAtccttggaaagacaggcggggcccTggtggacacctactgcagac  
acaactacggggCtggtagagcttcacagtagcagcggcgag (SEQ ID NO: 1 1 5) ;

DRB1\*0813 :

tttggagtagtctacgggtgagtggtattttcttcaatgggacggagcgggtgcggttcttggacagatacttcta  
taaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggccgat  
25 gccgagtagtggaaacagccagaaggaccttcttggaaagacaggcggggcccTggtggacacctactgcagacacaact  
acgggggttggtagagcttcacGgtg (SEQ ID NO: 1 1 6) ;

DRB1\*0814 :

cacgtttcttggagtactcttaGgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctagcgccgagtagtggacagccagaaggacatccitggaagacaggcggggccctggtagcacctactgcagac  
acaactacggggttggtagagcttcacagtg(SEQ ID NO: 117) ;

5 DRB1\*0815 :

tttcttggagtactctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagatacttc  
tataaccaagaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggccctg  
atgcggagCactggacagccagaaggacAtccitggaagacaggcggggccctTgtagcacctactgcagacacaa  
ctacggggttggtag(SEQ ID NO: 118) ;

10 DRB1\*0816 :

cacgtttcttggagtactctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagGacgtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctagcgccgagtagtggacagccagaaggacitccitggaagacaggcggggccctggtagcacctactgcagac  
acaactacggggttggtagagcttcacGgtgcagcggcgag(SEQ ID NO: 119) ;

15 DRB1\*0817 :

cacgtttcttggagtactctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctagcgccgagtagtggacagccagaaggacTtccitggaagacaggcggggccctTgtagcacctactgcagac  
acaactacggggttggtag(SEQ ID NO: 120) ;

20 DRB1\*0818 :

cacgtttcttggagtactcttaCgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaagaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctagcgccgagtagtggacagccagaaggacAtccitggaagaCaggcggggccgcggtagcacctactgcagac  
acaactacggggttggtagagcttcacagtgacggcgag(SEQ ID NO: 121) ;

25 DRB1\*0819 :

tttcttggagtactctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttccitggacagatacttc  
tataaccaagaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggccct

TcgccgagtlactggaacagccagaaggacAicctggaagacaggcgggccTggtggacacctactgcagacacaa  
ctacgggggttggtgagagcttcacagtc (SEQ ID NO: 1 2 2) ;

DRBI#0820 :

cacgtttcttggagtlactctacgtCtgagtgctatttcttcaatgggacggagcgggtgcggttcttggacagata  
5 ctictataaccaagaggagtlacgtgcgttcgacagcgacgtgggggagtlaccgggcggtgacggagctggggcgg  
cctgatgccgagtlactggaacagccagaaggacTtcttgaagacaggcgggccTggtggacacctactgcagac  
acaactacgggggttggtgagagcttcacagtcagcggcg (SEQ ID NO: 1 2 3) ;

DRBI#0821 :

cacgtttcttggagtlactctatgggtgagtgatttcttcaatgggacggagcgggtgcggttcttggacagata  
10 cticcataaccaggaggagtlcgtgcgttcgacagcgacgtgggggagtlaccgggcggtgacggagctggggcgg  
cctgatgccgagtlactggaacagccagaaggacttcttgaagacaggcgggccctggtggacacctactgcagac  
acaactacgggggttggtgagagcttcagggtgcagcggcg (SEQ ID NO: 1 2 4) ;

DRBI#0822 :

cacgtttcttggagtlactctacgggtgagtgatttcttcaatgggacggagcgggtgcggttcttggacagata  
15 ctictataaccaagaggagtlacgtgcgttcgacagcgacgtgggggagtlaccgggcggtgacggagctggggcgg  
cctagcgccgagtlactggaacagccagaaggacttcttgaagacaggcgggccctggtggacacctactgcagac  
acaactacggggCtgtGgagagcttcacGgtgcagcggcgag (SEQ ID NO: 1 2 5) ;

DRBI#0823 :

cacgtttcttggagtlactctacgggtgagtgatttcttcaatgggacggagcgggtgcggttcttggacagata  
20 ctictataaccaagaggagtlacgtgcgttcgacagcgacgtAgggagtlaccgggcggtgacggagctggggcgg  
cctagcgccgagtlactggaacagccagaaggacatcttgaagacaggcgggccTggtggacacctactgcagac  
acaactacgggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 1 2 6) ;

DRBI#0824 :

cacgtttcttggagtlactctacgggtgagtgatttcttcaatgggacggagcgggtgcggttcttggacagata  
25 ctictataaccaagaggagtlacgtgcgttcgacagcgacgtgggggagtlaccgggcggtgacggagctggggcgg  
cctgatgccgagtlactggaacagccagaaggacTtcttgaagaCaggcgggcccggtggacacctactgcagac  
acaactacgggggttggtgagagcttcacagtcagcgg (SEQ ID NO: 1 2 7) ;



DRBI\*090102 :

ggggacaccaaccacgtttcttgaagcaggataagtttgagtgicattttcttcaacgggacggagcgggtgcggt  
atctgcacagaggcatctataaccaagaggagaacgtgcgttcgacagcgacgtgggggagtagcgggcggtagc  
ggagctggggcggccgtgcgcgagtcctggaacagccagaaggacctccctggagcggaggcgggcccaggtaggac  
5 accgtgtgcagacacaactacggggttggtgagagcttcacagtgcagAggcgag (SEQ ID NO: 1 2 8) ;

DRBI\*0902 :

cacgtttcttgaagcaggataagtttgagtgicattttcttcaacgggacggagcgggtgcggtatctgcacagagg  
catctataaccaagaggagaacgtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
ccctgacgcTgagtagctggaacagccagaaggacctccctggagcggaggcgggcccaggtaggacaccgtgtgcagac  
10 acaactacggggttggtgagagcttcacagtgcagAggcgag (SEQ ID NO: 1 2 9) ;

DRBI\*100101 :

atggtgtgtctgaggctccctggaggctcctgcatggcagttctgacagtgacactgatggtgtgagctccccac  
tggctttggctggggacaccagaccacgtttcttggaggaggtaggtttgagtgicattttcttcaacgggacgga  
gcgggtgcggttgcctggaaagacgcgtccataaccaagaggagtagcgcgctacgacagcgacgtgggggagtagc  
15 cgggcggtagcggagctggggcggccctgatgccgagtagctggaacagccagaaggacctccctggagcggaggcgTg  
ccgcggtagcacctactgcagacacaactacggggttggtgagagcttcacagtgcagcggcgag (SEQ ID  
NO: 1 3 0) ;

DRBI\*100102 :

cacgtttcttggaggaggtaggtttgagtgicattttcttcaacgggacggagcgggtgcggttgcctggaaagacg  
20 cGtccataaccaagaggagtagcgcgctacgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
ccctgatgccgagtagctggaacagccagaaggacctccctggagcggaggcgGccgcggtagcacctactgcagac  
acaactacggggttggtgagagcttcacagtgcagcggcgag (SEQ ID NO: 1 3 1) ;

DRBI\*110101 :

atggtgtgtctgaggctccctggaggctcctgcatggcagTtctgacagtgacactgatggtgtgagctccccac  
25 tggctttggctggggacaccagaccacgtttcttggagtactctacgtctgagtgicattttcttcaatgggacgga  
gcgggtgcggttccctggacagatctctataaccaagaggagtagctgcgttcgacagcgacgtgggggagttc  
cgggcggtagcggagctggggcggccctgatgaGgagtagctggaacagccagaaggacTtccctggaagaCaggcggg

ccgcggtagacacctactgcagacacaactacggggtagtgagagcttcacagtcagcggcgag (SEQ ID NO: 1 3 2) ;

DRB1\*110102 :

ggggacaccagaccacgtttcttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggt  
5 tctggacagatacttctataaccaagaggagtagctgcgtctgcagcgcgacgtgggggagttccgggcggtgac  
ggagctggggcggcctgatgaGgagtagtggaacagccagaaggacTtcttgaagaCaggcgggcccggtaggac  
acctactgcagacacaactacggggtagtgagagcttcacGgtgcagcggcgag (SEQ ID NO: 1 3 3) ;

DRB1\*110103 :

cacgtttcttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcttggacagata  
10 ctctataaccaagaggagtagctgcgtctgcagcgcgacgtgggggagttccgggcggtgacggagctggggcgg  
ccgatgaGgagtagtggaacagccagaaggacTtcttgaagaGcAgggcGgcccggtaggacacctactgcagac  
acaactacggggtagtgagagcttcacagtcagcggcgag (SEQ ID NO: 1 3 4) ;

DRB1\*110104 :

cgtttcttggagtagctacgtctgagtgctatttcttcaaCgggacggagcgggtgcggttcttggacagatact  
15 tctataaccaagaggagtagctgcgtctgcagcgcgacgtgggggagttccgggcggtgacggagctggggcggcc  
tgatgAggagtagtggaacagccagaaggacTtcttgaagaCaggcgggcccggtaggacacctactgcagacac  
aactacggggtagtgagagcttcacagtcagcggcgag (SEQ ID NO: 1 3 5) ;

DRB1\*1102 :

ggggacaccagaccacgtttcttggagtagctacgtctgagtgctatttcttcaatgggacggagcgggtgcggt  
20 tcttggacagatacttctataaccaagaggagtagctgcgtctgcagcgcgacgtgggggagttccgggcggtgac  
ggagctggggcggcctgatgAggagtagtggaacagccagaaggacAtcttgaagacGAgcgggcccggtaggac  
acctactgcagacacaactacggggtagtgagagcttcacagtcagcggcgag (SEQ ID NO: 1 3 6) ;

DRB1\*1103 :

atggtagtgctgaggctccctggaggctccctgcatggcagTctgcagtagacacgatggtagtagctcccccac  
25 tggctttggctggggacaccagaccacgtttcttggagtagctacgtctgagtgctatttcttcaatgggacgga  
gcccgtgcggttcttggacagatacttctataaccaagaggagtagctgcgtctgcagcgcgacgtgggggagttc  
cgggcggtgacggagctggggcggcctgatgaggagtagtggaacagccagaaggacTtcttgaagacGAgcggg

ccgcggtagacacctactgcagacacaactacggggtgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 137) ;

DRB1\*110401 :

atggtgtgtctgaggctcccaggagctcctgcaaggcagTctgcagtgacacatggtgtgtgagctcccccac  
5 tggctttggctggggacaccagaccacgtttcttggagttacttactgtctgagtgatcttcttcaatgggacgga  
gggggtcggtttcctggacagatattctataaccaagaggagttacgtgcgttcgacagcgacgtgggggagttc  
cgggcggtagcggagctggggcgccctgatgaggagttacgtgaacagccagaaggacTtcttgaagaCaggcggg  
ccgcggtagacacctactgcagacacaactacggggtgtGgagagcttcacagtcagcggcgag (SEQ ID  
NO: 138) ;

10 DRB1\*110402 :

ggggacaccagaccacgtttcttggagtacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggt  
tcttggacagatattctataaccaagaggagttacgtgcgttcgacagcgacgtgggggagttccgggcggtagc  
ggagctggggcgccctgatgaGgagttacgtgaacagccagaaggacTtcttgaagacaggcggcccggtggac  
acctactgcagacacaactacggggtgtGgagagcttcacGgtgcagcggcgag (SEQ ID NO: 139) ;

15 DRB1\*1105 :

ccacgtttcttggagtacttactgtgtgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagat  
acttctataaccaagaggagttacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagctggggcgcc  
gctgatgaGgagttacgtgaacagccagaaggacTtcttgaagaCaggcgggcccgggtggacacctactgcaga  
cacaactacggggtggtagagcttcacagtcagcggcga (SEQ ID NO: 140) ;

20 DRB1\*110601 :

cgtttcttggagtacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagatatt  
tctataaccaagaggagttacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagctggggcgcc  
tgatgaGgagttacgtgaacagccagaaggacTtcttgaagaCaggcgggcccgggtggacacctactgcagacac  
aactacggggCtggtagagcttcacagtcagcggcgag (SEQ ID NO: 141) ;

25 DRB1\*110602 :

tttcttggagtacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagatattc  
tataaccaagaggagttacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagctggggcgccctg

atgaGgagtlactggaacagccagaaggacTtccTggaagaCaggcgggccggtggacacctatTgcagacacaa  
ctacgggCtgtggagagcttcacagtcagcggcgag (SEQ ID NO: 1 4 2) ;

DRB1\*1107 :

ttggagtlacttactgtcagtgatcatttcttcaatgggacggagcgggtgcggttccTggacagatattctata  
5 accaagaggagtlactgtcgttctgacagcgacgtgggggagTccgggcggTgacggagctggggcgccTgatGA  
GgagtlactggaacagccagaaggacctccTggagcagaagcggggccGgTggacaActactgcagacacaactac  
ggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 1 4 3) ;

DRB1\*110801 :

gtctgagtgatcatttcttcaatgggacggagcgggtgcggttccTggacagatattctataaccaagaggagTAc  
10 gtgcgttctgacagcgacgtgggggagTccgggcggTgacggagctggggcgccTgatGAggagtlactggaaca  
gccagaaggacctccTggaagaCaggcgggccggtggacacctactgcagacacaactacggggttggtgagag  
cttcacagt (SEQ ID NO: 1 4 4) ;

DRB1\*110802 :

gtctgagtgatcatttcttcaatgggacggagcgggtgcggttccTggacagatattctataaccaagaggagTAc  
15 gtgcgttctgacagcgacgtgggggagTccgggcggTgacggagctggggcgccTgatGAaggagtlactggaaca  
gccagaaggacctccTggaagaCaggcgggccggtggacacctactgcagacacaactacggggttggtgagag  
cttcacGgt (SEQ ID NO: 1 4 5) ;

DRB1\*1109 :

catttcttcaatgggacggagcgggtgcggttccTggacagatattccataaccaGaggagAACgtgcgttctg  
20 acagcgacgtgggggagTccgggcggTgacggagctggggcgccTgatGAggagtlactggaacagccagaagga  
cttccTggaagaCaggcgggccggtggacacctactgcagacacaactacggggttggtgagagcttcacagt  
cag (SEQ ID NO: 1 4 6) ;

DRB1\*1110 :

gagtgatcatttcttcaatgggacggagcgggtgcggttccTggacagatattccataaccaGaggagTcgtgc  
25 gcttctgacagcgacgtgggggagTccgggcggTgacggagctggggcgccTgatGAggagtlactggaacagcca  
gaaggacTtccTggaagaCaggcgggccggtggacacctactgcagacacaactacggggttggt (SEQ ID  
NO: 1 4 7) ;

DRB1\*1111 :

tttcttggagtactctacgtctgagtgcatitcttcaatgggacggagcgggtgcggttccitggacagatacttc  
tataaccaagaggagtagtgcgtctgcacagcgacgtgggggagTccgggcggtagcggagctggggcggccig  
atgAggagtactggaacagccagaaggacTtccitggaagacGAgcgggccggtggacacctactgcagacacaa  
5 ctacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 148) ;

DRB1\*111201 :

gagtgcatitcttcaatgggacggagcgggtgcggttccitggacagatacttctataaccaagaggagTcgtgc  
gcttcgacagcgacgtgggggagTccgggcggtagcggagctggggcggccigatgAggagtactggaacagcca  
gaaggacTtccitggaagaCaggcgggccggtggacacctactgcagacacaactacggggttggT (SEQ ID  
10 NO: 149) ;

DRB1\*111202 :

cacgtttcttggagtactctacgtctgagtgcatitcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaccaGaggagTcgtgcgtctgcacagcgacgtgggggagTccgggcggtagcggagctggggcgg  
ccigatgAggagtactggaacagccagaaggacTtccitggaagaCaggcgggccggtggacacctactgcagac  
15 acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 150) ;

DRB1\*1113 :

ggggacaccagaccacgtttcttggagtactctacgtctgagtgcatitcttcaatgggacggagcgggtgcggt  
tccitggacagatacttccataaccaggaggagttcgtgcgtctgcacagcgacgtgggggagTccgggcggtagc  
ggagctggggcggccigatgAGgagtactggaacagccagaaggacctccitggagcGaggcgggccggtggac  
20 acciaTtgcagacacaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 151) ;

DRB1\*1114 :

ggggacaccagaccacgtttcttggagtactctacgtctgagtgcatitcttcaatgggacggagcgggtgcggt  
tccitggacagatacttctataaccaagaggagtagtgcgtctgcacagcgacgtgggggagTccgggcggtagc  
ggagctggggcggccigatgAggagtactggaacagccagaaggacAtccitggaagacGAgcgggccggtggac  
25 acctactgcagacacaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 152) ;

DRB1\*1115 :

ggggacaccagaccacgtttcttggagtactctacgtctgagtgcatitcttcaatgggacggagcgggtgcggt

tccTggacagatacttctataaccaagaggaggacTtgcgcttcgacàgcgacgtgggggagttccgggCGgtgac  
ggagctggggCGggccTgatgaGgagTacttggaacagccagaaggacTtccTggaaGaCaggCGggccCGgtggac  
acctactgcagacacaaactacggggTggTgagagcttcacagTgcagCGgcgag (SEQ ID NO: 1 5 3) ;  
DRBI\*1116 :

5 cacgtttctTggagTactctacgtctgagTgtcatTTcttcaaTgggacggagCGggTgcggttccTggacagata  
cttccataaccaggaggagAacgtgcgcttcgacagcgacgtgggggagttccgggCGgtgacggagctggggCGg  
ccTgatgAggagTacttggaacagccagaaggacAtccTggaagacGAgCGggccCGgtggacacctactgcagac  
acaactacggggTgtGgagagcttcacagTgcagCGgcgag (SEQ ID NO: 1 5 4) ;  
DRBI\*1117 :

10 ggggacaccagaccacgtttctTggagTactctacgtctgagTgtcatTTcttcaaTgggacggagCGggTgcggt  
tccTggacagatacttccataaccaggaggagTctgtgcgcttcgacagcgacgtgggggagTaccgggCGgtgac  
ggagctggggCGggccTgatgAGgagTacttggaacagccagaaggacctccTggagCGggagCGggccgAggtggac  
acctatTgcagacacaaactacggggTgtGgagagcttcacagTgcagCGgcgag (SEQ ID NO: 1 5 5) ;  
DRBI\*1118 :

15 tttctTggagTactctacgtctgagTgtcatTTcttcaaTgggacggagCGggTgcggttccTggacagatacttc  
tataaccaagaggagTAcgtgcgcttcgacagcgacgtgggggagttccgggCGgtgacggagctggggCGggccTg  
atgAggagTacttggaacagccagaaggacAtccTggaagaCaggCGggccCGgtggacacctactgcagacacaa  
ctacggggTgtGgagagcttcacagTgcagCGgcgag (SEQ ID NO: 1 5 6) ;  
DRBI\*1119 :

20 tttctTggagTactctacgtctgagTgtcatTTcttcaaTgggacggagCGggTgcggttccTggacagatacttc  
tataaccaagaggagTAcgtgcgcttcgacagcgacgtgggggagttccgggCGgtgacggagctggggCGggccTg  
atgAggagTacttggaacagccagaaggacAtccTggaagaCaggCGggccCGgtggacacctactgcagacacaa  
ctacggggTggTgagagcttcacagTgcagCGgcgag (SEQ ID NO: 1 5 7) ;  
DRBI\*1120 :

25 tTggagTactctacgtctgagTgtcatTTcttcaaTgggacggagCGggTgcggttccTggacagatacttccata  
accaggaggagAacgtgcgcttcgacagcgacgtgggggagttccgggCGgtgacggagctggggCGggccTgatgA  
ggagTacttggaacagccagaaggacAtccTggaagacGAgCGggccCGgtggacacctactgcagacacaaactac

gggggtgggtgagagcttcacagtgcagc (SEQ ID NO: 1 5 8) ;

DRB1\*1121 :

ttggagtlactctacgtctgagtgctatcttccaatgggacggagcgggtgcggttccctggacagatacttctata  
accaagaggagtlacgtgcgtctgcacagcgacgtgggggagttccgggcgggtgacggagctggggcggcctgata  
5 ggagtlactggaacagccagaaggacatcttggaaagcAGcggggccggtggacacctactgcagacacaactac  
ggggctgtggaga (SEQ ID NO: 1 5 9) ;

DRB1\*1122 :

cacgtttcttggagcagggtaaaCatgagtgctatcttccaatgggacggagcgggtgcggttccctggacagata  
cttctataaccaagaggagtlacgtgcgtctgcacagcgacgtgggggagttccgggcgggtgacggagctggggcgg  
10 cctgataGgagtlactggaacagccagaaggacTtcttggaaGcaggcgggcccgggtggacacctactgcagac  
acaactacgggggtgggtgagag (SEQ ID NO: 1 6 0) ;

DRB1\*1123 :

ccacgtttcttggagtlactctacgtctgagtgctatcttccaatgggacggagcgggtgcggttccctggacagata  
acttctataaccaagaggagtlacgtgcgtctgcacagcgacgtgggggagttccgggcgggtgacggagctggggcgg  
15 gccctgataGgagtlactggaacagccagaaggacTtcttggaaGcaggcgggcccTggtggacacctactgcaga  
cacaactacgggggtgggtg (SEQ ID NO: 1 6 1) ;

DRB1\*1124 :

ttcttggagtlactctacgtctgagtgctatcttccaatgggacggagcgggtgcggttccctggacagatacttct  
ataaccaagaggagGacgtgcgtctgcacagcgacgtgggggagttccgggcgggtgacggagctggggcggcctga  
20 tgaGgagtlactggaacagccagaaggacTtcttggaaGcaggcgggcccTggtggacacctactgcagacacaac  
tacgggggtgggtgagagcttcac (SEQ ID NO: 1 6 2) ;

DRB1\*1125 :

cacgtttcttggagtlactctacgtctgagtgctatcttccaatgggacggagcgggtgcggttccctggacagata  
cttctataaccaagaggagtlacgtgcgtctgcacagcgacgtgggggagttccgggcgggtgacggagctggggcgg  
25 cctgataGgagtlactggaacagccagaaggacTtcttggaaGcaggcgggcccTggtggacacctactgcagac  
acaactacgggggtgtGgagagcttcacagtgcagcggcgag (SEQ ID NO: 1 6 3) ;

DRB1\*1126 :

tiggagtactctacgtCtgaGtgcatttcttcaatgggacggagcgggtgcggttcciggacagatacttctata  
accaagaggagAACgtgcgttcgacagcgacgtgggggagTccgggcggtagcggagctggggcggccgatga  
ggagtactggaacagccagaaggacctcciggagcagaggcgggcccgggtggacacctactgcagacacaactac  
ggggttggtag(SAQ ID NO: 1 6 4) ;

5 DRB1\*112701 :

tttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcciggacagatactt  
tataaccaagaggagtacgtgcgttcgacagcgacgtgggggagTccgggcggtagcggagctggggcggccg  
atgaggagtactggaacagccagaaggacctcciggagaCaggcgggcccgggtggacaaTtactgcagacacaa  
ctacggggttggtagag(SAQ ID NO: 1 6 5) ;

10 DRB1\*112702 :

cacgtttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcciggacagata  
cttctataaccaagaggagtacgtgcgttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgg  
ccgatgAggagtactggaacagccagaaggacctcciggagaCaggcgggcccgggtggacaaTtactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag(SAQ ID NO: 1 6 6) ;

15 DRB1\*1128 :

cacgtttcttggagtactctacgtctgaGtgcatttcttcaatgggacggagcgggtgcggttcciggacagata  
cttctataaccaagaggagAACgtgcgttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgg  
ccgatgAggagtactggaacagccagaaggacTtcciggagaCaggcgggcccgggtggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag(SAQ ID NO: 1 6 7) ;

20 DRB1\*1129 :

cacgtttcttggagtactctacgtCtgaGtgcatttcttcaatgggacggagcgggtgcggttcciggacagata  
cttctataaccaagaggagTccgtgcgttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgg  
ccgatgAggagtactggaacagccagaaggacTtcciggagaCaggcgggcccgggtggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag(SAQ ID NO: 1 6 8) ;

25 DRB1\*1130 :

cacgtttcttggagcTgcttaagtcgagtgctatttcttcaatgggacggagcgggtgcggttcciggacagata  
cttctataaccaagaggagtacgtgcgttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgg



ccatgatgaggaglacitggaacagccagaaggacttccitggaagaCaggcgggccgaggaggacacclactgcagac  
acaactacggggttggtagagcttcacagtcagcggcga (SEQ ID NO: 169) ;

DRB1\*1131 :

ggggacaccagaccacgtttcttggagtlactlactgctlgagtgctatttcttcaatgggacggagcgggtgcggt  
5 tccitggacagatacttctataaccaagaggaglacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagc  
ggagc tggggcggcctgatgAggagCactggaacagccagaaggacAtccitggaagaCaggcgggccgaggaggac  
acclactgcagacacaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 170) ;

DRB1\*1132 :

cacgtttcttggagtlactlactgctlgagtgctatttcttcaatgggacggagcgggtgcggttccitggacagata  
10 ctctataaccaagaggaglacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagc tggggcgg  
ccitgatgAGgagtlactggaacagccagaaggacttccitggaagaCaggcgggccgTggitggacacclactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 171) ;

DRB1\*1133 :

ttggagtlactlactgctlgagtgctatttcttcaatgggacggagcgggtgcggttccitggacagatacttctata  
15 accaagaggaglacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagc tggggcggcctgatga  
ggaClactggaacagccagaaggacttccitggaagacaggcgggccgaggaggacacclactgcagacacaactac  
ggggttggtagagcttcacagtcagcggc (SEQ ID NO: 172) ;

DRB1\*1134 :

cacgtttcttggagtlactlactgctlgagtgctatttcttcaatgggacggagcgggtgcggttccitggacagata  
20 ctctataaccaagaggaglacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagc tggggcgg  
ccitgatgAggagtlactggaacagccagaaggacttccitggagcagaggcgggccgaggaggacacclactgcagac  
acaactacggggttggtagagcttcacagtcagcggcga (SEQ ID NO: 173) ;

DRB1\*1135 :

ttggagtlactlactgctlgagtgctatttcttcaatgggacggagcgggtgcggttccitggacagatacttctata  
25 accaagaggaglacgtgcgttcgacagcgacgtgggggagttccgggcggtagcggagc tggggcggcctgatga  
ggaClactggaacagccagaaggacttccitggaagacaggcgggccgaggaggacacclactgcagacacaactac  
ggggttggtagagcttcacagtcagcggc (SEQ ID NO: 174) ;

DRB1\*1136 :

cgtttcttggagttacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagatact  
tctataaccaagaggagttacgttgcgttctgacagcgacgtgggggagttccgggcgggtgacggagctggggcggc  
tgaatgaggagttacttgaacagccagaaggacctcttgaagacGagcgggccgcggtggacacctactgcagacac  
5 aactacggggttgtGgagagcttcacagtgcagcggcgag (SEQ ID NO: 175) ;

DRB1\*1137 :

cacgtttcttggagttacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagata  
cttctataaccaagaggagttacgttgcgttctgacagcgacgtgggggagttccgggcgggtgacggagctggggcgg  
ccatgaatgaggagttacttgaacagccagaaggacctcttgaagaCaggcgggccgcggtggacacctactgcagac  
10 acaactacggggttgttgagagcttcacagtgcagcggcgag (SEQ ID NO: 176) ;

DRB1\*1138 :

cacgtttcttggagttacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagata  
cttctataaccaagaggagttacgttgcgttctgacagcgacgtgggggagttccgggcgggtgacggagctggggcgg  
ccatgaatgaggGgtacttgaacagccagaaggacctcttgaagaCaggcgggccgcggtggacacctactgcagac  
15 acaactacggggttgttgagagcttcacagtgcagcggcgag (SEQ ID NO: 177) ;

DRB1\*1139 :

cacgtttcttggagttacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagata  
cttctataaccaagaggagttacgttgcgttctgacagcgacgtgggggagttccgggcgggtgaGggagctggggcgg  
ccatgaatgaggagttacttgaacagccagaaggacctcttgaagaCaggcgggccgcggtggacacctactgcagac  
20 acaactacggggttgttgagagcttcacagtgcagcggcgag (SEQ ID NO: 178) ;

DRB1\*1140 :

cacgtttcttggagttacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagata  
cttccataaccaggaggagAacgttgcgttctgacagcgacgtgggggagttccgggcgggtgacggagctggggcgg  
ccatgaatgaggagttacttgaacagccagaaggacctcttgaagaGagcgggccgcggtggacacctactgcagac  
25 acaactacggggttgtGg (SEQ ID NO: 179) ;

DRB1\*1141 :

tttcttggagttacttactgtctgagtgatcttcttcaatgggacggagcgggtgcggttcttggacagatacttct

tataaccaagaggaglacgtgcgttcgacagcgacgtgggggaglacgggaggacgggagcggggcgccctg  
atgAggagtlactggaacagccagaaggacTtcciggaagacGAgcgggcccgggtggacacctactgcagacacaa  
ctacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 180) ;

DRB1\*1142 :

5 cactttcttggagtlacttactgtctgagtgctatcttcaatgggacggagcgggtgcggttccctggacagata  
cttctataaccaagaggagtlactgtgcgttcgacagcgacgtgggggagTccgggcccgggtggacacctactgcagac  
ccctgatgAggagtlactggaacagccagaaggaccttcciggaagaCaggcgggcccgggtggacacctactgcagac  
acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 181) ;

DRB1\*1143 :

10 cactttcttggagtlacttactgtctgagtgctatcttcaatgggacggagcgggtgcggttccctggacagata  
cttctataaccaagaggagtlactgtgcgttcgacagcgacgtgggggagTccgggcccgggtgaGggagcggggcg  
ccctgatgaggagtlactggaacagccagaaggaccttcciggaagaCaggcgggcccgggtggacacctactgcagac  
acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 182) ;

DRB1\*120101 :

15 atgggtgtctgaggctccctggaggctccctgcatggcagTctgacagtgacactgatgggtgtgagctccccac  
tggctttggctggggacaccAgaccacgtttcttggagtlacttactgggtgagtggtatcttcaatgggacgga  
gcgggtgcggttActggagagacacttccataaccaggaggagCtctgcgttcgacagcgacgtgggggagttc  
cgggcccgtgacggagcggggcgccctgtcgccgagTcttgaacagccagaaggacAtcctggaagacaggcgcg  
ccgagggtggacacctatTgcagacacaactacggggCtgggagagcttcacagtcagcggcgag (SEQ ID

20 NO: 183) ;

DRB1\*120102 :

atgggtgtctgaggctccctggaggctccctgcatggcagTctgacagtgacactgatgggtgtgagctccccac  
tggctttggctggggacaccAgaccacgtttcttggagtlacttactgggtgagtggtatcttcaatgggacgga  
gcgggtgcggttActggagagacacttccataaccaggaggagCtctgcgttcgacagcgacgtgggggagttc  
25 cgggcccgtgacggagcggggcgccctgtcgccgagTcttgaacagccagaaggacAtcctggaagacaggcggg  
ccgagggtggacacctactgcagacacaactacggggCtgggagagcttcacagtcagcggcgag (SEQ ID  
NO: 184) ;

DRB1\*120201 :

cacgtttcttggagttacttaccgggtgagtggtattttcttcaatgggacggagcgggtgcggttactggagagaca  
ctttccataaccaggaggagCtccctgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
cctgtcgcggagtccttggaacagccagaaggacTtccctggaagacaggcgcccgcggtggacacctatTgcagac  
5 acaactacggggCtgtggagagcttcacagtcagcggcgag (SEQ ID NO: 185) ;

DRB1\*120202 :

ttcttggagtacttaccgggtgagtggtattttcttcaatgggacggagcgggtgcggttactggagagacactttcc  
ataaccaggaggagCtccctgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgt  
cgccgagtccttggaacagccagaaggacTtccctggaagacaggcgCgcccgggtggacacctactgcagacacaac  
10 tacggggCtgtggag (SEQ ID NO: 186) ;

DRB1\*120302 :

cacgtttcttggagttacttaccgggtgagtggtattttcttcaatgggacggagcgggtgcggttActggagagaca  
ctttccataaccaggaggagCtccctgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
cctgtcgcggagtccttggaacagccagaaggacAtcctggaagacaggcgCgcccgggtggacacctactgcagac  
15 acaactacgggggttgtggagagcttcacagtcagcgg (SEQ ID NO: 187) ;

DRB1\*1204 :

gagttacttaccgggtgagtggtattttcttcaatgggacggagcgggtgcggttActggagagacactttccataacc  
aggaggagCtccctgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcggcctgaTgaGga  
glacttggaacagccagaaggacAtcctggaagacaggcgcccgcggtggacacctatTgcagacacaactacggg  
20 gCtgtgg (SEQ ID NO: 188) ;

DRB1\*1205 :

cacgtttcttggagttacttaccgggtgagtggtattttcttcaatgggacggagcgggtgcggttActggagagaca  
ctttccataaccaggaggagttccctgcgcttcgacagcgacgtgggggagttccgggcggtgacggagctggggcgg  
cctgtcgcggagtccttggaacagccagaaggacAtcctggaagacaggcgcccgcggtggacacctatTgcagac  
25 acaactacggggCtgtggagagcttcacagtcagcggcgag (SEQ ID NO: 189) ;

DRB1\*1206 :

ggggacaccagaccacgtttcttggagttacttaccgggtgagtggtattttcttcaatgggacggagcgggtgcggt

tAttgagagacacitccataaaccaggaggagCtctgcgcttcgacagcgacgtgggggagttccggcggtgac  
ggagctggggcgccctgctgccgagtcctggaacagccagaaggacAtcctggaagacaggcgcccggtggac  
acctatTgcagacacaactacggggCtgtggagagcttcacagtcagcgcgag (SEQ ID NO: 190) ;  
DRB1\*1207 :

5 cacgtttcttggagtactctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttactggagagaca  
cttccataaaccaggaggagctcttgcgcttcgacagcgacgtgggggagttccggcggtgacggagctggggcgg  
ccctgctgccgagtcctggaacagccagaaggacatcctggGagacaggcgcccggtggacacctatTgcagac  
acaactacggggCtgtggagagcttcacagtcagcgcgag (SEQ ID NO: 191) ;  
DRB1\*1208 :

10 cacgtttcttggagtactctacgggtgagtggtatttcttcaatgggacggagcgggtgcggttCctggagagaca  
cttccataaaccaggaggagCtcttgcgcttcgacagcgacgtgggggagttccggcggtgacggagctggggcgg  
ccctgctgccgagtcctggaacagccagaaggacAtcctggaagacaggcgcccggtggacacctatTgcagac  
acaactacggggCtgtggagagcttcacagtcagcgcgag (SEQ ID NO: 192) ;  
DRB1\*130101 :

15 ggggacaccagaccacgtttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggt  
tcttggacagatacttccataaaccaggaggagAAcgtgcgcttcgacagcgacgtgggggagttccggcggtgac  
ggagctggggcgccctgctgccgagtcctggaacagccagaaggacAtcctggaagacAGcggggcccggtggac  
acctactgcagacacaactacggggtgtGgagagcttcacagtcagcgcgag (SEQ ID NO: 193) ;  
DRB1\*130102 :

20 cacgtttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcttggacagata  
cttccataaaccaggaggagaacgtgcgcttcgacagcgacgtgggggagttccggcggtgacggagctggggcgg  
ccctgatgccgagtcctggaacagccagaaggacatcctggaagacgagcgggtgcggtggacacctactgcagac  
acaactacggggtgttggagagcttcacagtcagcgcgag (SEQ ID NO: 194) ;  
DRB1\*130103 :

25 cacgtttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcttggacagata  
cttccataaaccaggaggagaacgtgcgcttcgacagcgacgtgggggagttccggcggtgacggagctggggcgg  
ccctgatgccgagtcctggaacagccagaaggacatcctggaagacAGcggggcccggtggacacctatTgcagac

acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 195) ;

DRB1\*130201 :

ggggacaccagaccacgtttcttggagttacttactgtcgttcagttgcatttcttcaatgggacggagcgggtgcggt  
tcttggacagatacttccataaccaggaggagAACgtgcgttcgacagcgacgtgggggagtTccgggcggtgac  
5 ggagctggggcgccctgaltgccgagttacttgaacagccagaaggacAtccttgaagacAGcggggccggtggac  
acctactgcagacacaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 196) ;

DRB1\*130202 :

cacgtttcttggagttacttactgtcgttcagttgcatttcttcaatgggacggagcgggtgcggttcttggacagata  
cttccataaccaggaggagaacgtgcgttcgacagcgacgtgggggagtTccgggcggtgacggagctggggcgg  
10 cctgaltgccgagttacttgaacagccagaaggacatccttgaagacAGcgCgcccgggtggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcgg (SEQ ID NO: 197) ;

DRB1\*130301 :

ggggacaccagaccacgtttcttggagttacttactgtcgttcagttgcatttcttcaatgggacggagcgggtgcggt  
tcttggacagatacttctataaccaagaggagttactgtcgttcgacagcgacgtgggggagtaccgggcggtgac  
15 ggagctggggcgccctagCgcccagttacttgaacagccagaaggacatccttgaagaCaAgcggggccggtggac  
acctactgcagacacaactacggggttggtagagcttcacGgtgcagcggcgag (SEQ ID NO: 198) ;

DRB1\*130302 :

ttggagttacttactgtcgttcagttgcatttcttcaatgggacggagcgggtgcggttcttggacagatacttctata  
accaagaggagttactgtcgttcgacagcgacgtgggggagtaccgggcggtgacggagctggggcgccctAGcg  
20 cgagttacttgaacagccagaaggacatccttgaagaCaAgcggggccggtggacacctactgcagacacaactac  
ggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 199) ;

DRB1\*1304 :

ggggacaccagaccacgtttcttggagttacttactgtcgttcagttgcatttcttcaatgggacggagcgggtgcggt  
tcttggacagatacttctataaccaagaggagttactgtcgttcgacagcgacgtgggggagtTccgggcggtgac  
25 ggagctggggcgccctAGcgccgagttacttgaacagccagaaggacatccttgaagacAGcggggccggtggac  
acctactgcagacacaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 200) ;

DRB1\*1305 :

cgtttcttggagtactctacgtctgaGtgctatttcttcaatgggacggagcgggtgcggttccaggacagatact  
tccataaccaGgaggagAacgtgcgcttcgacagcgacgtgggggagTccgggcggtagcggagctggggcggcc  
tgatgccgagtagtgaacagccagaaggacTtcttggaagaCaggcgggccggtggacacctactgcagacac  
aaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 2 0 1) ;

## 5 DRB1\*1306 :

tgctatttcttcaatgggacggagcgggtgcggttccaggacagatacttccataaccaggaggagAacgtgcgct  
tcgacagcgacgtgggggagTccgggcggtagcggagctggggcggccctgatgccgagtagtgaacagccagaa  
ggacAtcttggaagaCaggcgggccggtggacacctactgcagacacaactacggggttgGgagagcttcaca  
(SEQ ID NO: 2 0 2) ;

## 10 DRB1\*130701 :

cacgtttcttggagtactctacgtctgaGtgctatttcttcaatgggacggagcgggtgcggttccaggacagata  
cttctataaccaagaggagTcgtgcgcttcgacagcgacgtgggggagTaccgggcggtagcggagctggggcgg  
ccctgatgccgagtagtgaacagccagaaggacTtcttggaGaCaggcgggccggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 2 0 3) ;

## 15 DRB1\*130702 :

cacgtttcttggagtactctacgtctgaGtgctatttcttcaatgggacggagcgggtgcggttccaggacagata  
cttctataaccaagaggagTcgtgcgcttcgacagcgacgtgggggagTaccgggcggtagcggagctggggcgg  
ccctgacgtgagtagtgaacagccagaaggacTtcttggaGaCaggcgggccggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcg (SEQ ID NO: 2 0 4) ;

## 20 DRB1\*1308 :

ttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttccaggacagatacttcc  
ataaccaggaggagTcgtgcgcttcgacagcgacgtgggggagTaccgggcggtagcggagctggggcggccctga  
tgccgagtagtgaacagccagaaggacAtcttggaagacGAgcgggccggtggacacctactgcagacacaac  
tacggggttgGgagagcttcacagt (SEQ ID NO: 2 0 5) ;

## 25 DRB1\*1309 :

ttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttccaggacagatacttcc  
cataaccaggaggagaAacgtgcgcttcgacagcgacgtgggggagTccgggcggtagcggagctggggcggccctg

algccgagtagtggaaacagccagaaggacAtcctggagcaggCgcgggccgcggtggacacctactgcagacacaa  
ctacgggggttgtGgagagcttcacagtg (SEQ ID NO: 206) ;

DRBI\*1310 :

cacgtttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttccctggacagata  
5 ctctcataaaccaggaggagAACgtgcgcttcgacagcgacgtgggggagtTccgggcggtagcggagctggggcgg  
cctgatgccgagtagtggaaacagccagaaggacAtcctggagaCaAgcgggccgcggtggacacctactgcagac  
acaactacgggggttgtGgagagcttcacagtgacggcgag (SEQ ID NO: 207) ;

DRBI\*1311 :

cacgtttcttggagtactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttccctggacagata  
10 ctctcataaaccaagaggagAACgtgcgcttcgacagcgacgtgggggagtTccgggcggtagcggagctggggcgg  
cctgatgccgagtagtggaaacagccagaaggacTtccctggagaCaggcgggccgcggtggacacctactgcagac  
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DRBI\*1312 :

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15 ctctcataaaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctaGcgccgagtagtggaaacagccagaaggacAtcctggagaCaggcgggccgcggtggacacctactgcagac  
acaactacgggggttggtgagagcttcacagtgacggcgag (SEQ ID NO: 209) ;

DRBI\*1313 :

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20 ctctcataaaccaagaggagtagtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctaGcgccgagtagtggaaacagccagaaggacAtcctggagaCaggcggggcccTggtggacacctactgcagac  
acaactacgggggttggtgagagcttcacagtgca (SEQ ID NO: 210) ;

DRBI\*131401 :

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25 tAACgtgcgcttcgacagcgacgtgggggagtTccgggcggtagcggagctggggcggcctgatgccgagtagtgg  
aacagccagaaggacTtccctggaaGaCaggcgggccgcggtggacacctactgcagacacaactacgggggttggtg  
(SEQ ID NO: 211) ;



DRBI\*131402 :

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cctgacgcTgagtlacTggaacagccagaaggacTtccctggaaGaCaggcgggccggtggacacctactgcagac  
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DRBI\*1315 :

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atgccgagtlacTggaacagccagaaggacatccctggaagacGAgcgggccggtggacacctactgcagacacaa  
10 ctacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 2 1 3) ;

DRBI\*1316 :

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15 ggttgAtgagagcttcaca (SEQ ID NO: 2 1 4) ;

DRBI\*1317 :

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DRBI\*1318 :

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ccctgatgccgagtlacTggaacagccagaaggacTtccctggaagacaggcgggccTggtggacacctactgcagac  
25 acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 2 1 6) ;

DRBI\*1319 :

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DRBI\*1320 :

5 cactttcttggagtlactctacgtcagtgctatcttcaatgggacggagcgggtgcggttccctggaCagata  
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cctgatgccgagtlaciggaacagccagaaggacctcciggaagacGAgcgggcccgggtggacacctactgcagac  
acaactacggggttgtGgagagcttcacagtcagcgag (SEQ ID NO: 218) ;  
DRBI\*1321 :

10 ggggacaccagaccagtttcttggagtlactctacgtCtagtgctatcttcaatgggacggagcgggtgcggt  
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DRBI\*1322 :

15 gaccacgtttcttggagtlactctacgtCtagtgctatcttcaatgggacggagcgggtgcggttccctggaCag  
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DRBI\*1323 :

20 cgtttcttggagtlactctacgtcagtgctatcttcaatgggacggagcgggtgcggttccctggaGagatact  
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tgatgccgagtlactggaacagccagaaggacatcciggaagacGAgcgggcccgggtggacacctactgcagacac  
aactacggggttgtGgagagcttcacGgtcagcgag (SEQ ID NO: 221) ;  
DRBI\*1324 :

25 cgtttcttggagtlactctacgtcagtgctatcttcaatgggacggagcgggtgcggttccctggaGagatact  
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aactacggggttgtGgagagcttcacagtcagcggc (SEQ ID NO: 2 2 2) ;

DRB1\*1325 :

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5 cctgaTgccgagTactggaacagccagaaggacctcctTggaagaCaggcgggccgcggtggacacctactgcagac  
acaactacggggttggtgaga (SEQ ID NO: 2 2 3) ;

DRB1\*1326 :

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10 cctgacgcTgagTactggaacagccagaaggacTtccTggaGaCaggcgCgccgcggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 2 2 4) ;

DRB1\*1327 :

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15 cctgaTgccgagTactggaacagccagaaggacatccTggaagacGAgcgggccgcggtggacacctactgcagac  
acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 2 2 5) ;

DRB1\*1328 :

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20 cgagTactggaacagccagaaggacatccTggaagacgagcgggccgcggtggacacctactgcagacacaactac  
Cgggttgtggagagcttcac (SEQ ID NO: 2 2 6) ;

DRB1\*1329 :

cacgtttcttggagtacCtaCgtCgaGtgtcatttcttcaatgggacggagcgggtgcggttccTggaCagata  
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25 cctgaTgccgagTactggaacagccagaaggacctcctTggaagacGAgcgggccgcggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 2 2 7) ;

DRB1\*1330 :

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GcgccgagtlacttggaacagccagaaggacAtccttggaagaCaggcgggccggtggacacctactgcagacacaa  
ctacggggttggtgagagcttcaca (SEQ ID NO: 2 2 8) ;

5 DRB1\*1331 :

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ccctGcgccgagtlacttggaacagccagaaggacAtccttggaagacGAgcgggccggtggacacctactgcagac  
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10 DRB1\*1332 :

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ccctGcgccgagtlacttggaacagccagaaggacAtccttggaagacGAgcgggccggtggacacctactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 2 3 0) ;

15 DRB1\*1333 :

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acaactacggggttggtg (SEQ ID NO: 2 3 1) ;

20 DRB1\*1334 :

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25 DRB1\*1335 :

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cctgatgccgagtlac tggacagccagaaggacatcc tggagacgagcgggccggtggacacctactgcagac  
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DRBI#1336 :

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cctgatgccgagtlac tggacagccagaaggacAtcc tggagacGAgcgggccggtggacacctactgcagac  
acaactacggggtlgtggagagcttcacagtcagcggcgag (SEQ ID NO: 2 3 4) ;

DRBI#1337 :

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cctgatgccgagtlac tggacagccagaaggacatcc tggagacCaAgcgggccggtggacacctactgcagac  
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DRBI#1338 :

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acaactacggggtlgt (SEQ ID NO: 2 3 6) ;

DRBI#1339 :

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acaactacggggtlgtgagagcttcacagtcagcggcgag (SEQ ID NO: 2 3 7) ;

DRBI#1340 :

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25 accaggaggagAACgtgcgttcgacagcgacgtgggggagtlaccgggcgggtgacggagctggggcggcctgatgc  
cgagtlac tggacagccagaaggacAtcc tggagacGAgcgggccggtggacacctactgcagacacaactac  
ggggtlgtGgagagcttcacagtcagcggcg (SEQ ID NO: 2 3 8) ;

DRB1\*1341 :

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5 acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 2 3 9) ;

DRB1\*1342 :

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cctgatgccgagtagtggacagccagaaggacTtccgggaagaCaggcgggcccgggtggacacctactgcagac  
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DRB1\*1343 :

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DRB1\*1344 :

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DRB1\*1345 :

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25 ggggttggtagag (SEQ ID NO: 2 4 3) ;

DRB1\*1346 :

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DRB1\*1347 :

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DRB1\*1348 ;

- 10 cactgttcttggtgagtagcttagctctgagtgctatttcttcaatgggacggagcgggtgcggttcciggaagata  
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- 15 cactgttcttggtgagtagcttagctctgagtgctatttcttcaatgggacggagcgggtgcggttcciggaagata  
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DRB1\*1350 :

- 20 cactgttcttggtgagtagcttagctctgagtgctatttcttcaatgggacggagcgggtgcggttcciggaagata  
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ccigtatcgccgagtagtggaacagccagaaggacTtcciggaagaCaggcgggcccggtagcaccttagcagac  
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DRB1\*1351 :

- 25 cactgttcttggtgagtagcttagctctgagtgctatttcttcaatgggacggagcgggtgcggttcciggaagata  
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DRBI\*1352 :

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5 cctgatgccgagttactggaacagccagaaggacAtcctggaagacGAgcgggccggtggacacctactgcagac  
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DRBI\*1353 :

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10 cctgatgccgagttactggaacagccagaaggacatcctggaagacGAgcgggccggtggacacctactgcagac  
acaactacggggttgaggagcttcacagtcagcggcg (SEQ ID NO: 2 5 1) ;

DRBI\*1354 :

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15 cctgtcgccgagttcctggaacagccagaaggacttccctggaagacGAgcgggccggtggacacctactgcagac  
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DRBI\*1355 :

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DRBI\*140101 :

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25 gcgggtgcggttccctggacagatacttccataaaccaggaggagttcgtgcgttcgacagcgacgtgggggagttac  
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NO: 2 5 4) ;

DRB1\*140102 :

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5 cctgCtgcggagcacaggacagccagaaggacctcctggagcggaggcgggcccAggtggacacctacgcagac  
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DRB1\*1402 :

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10 gcgggtgcggtlccctggagagatattccataaccaGaggagAAcgtgcgttcgacagcgacgtgggggagtag  
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NO: 2 5 6) ;

DRB1\*1403 :

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gcgggtgcggtlccctggagagatattccataaaccaggaggagAACgtgcgttcgacagcgacgtgggggagtag  
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20 NO: 2 5 7) ;

DRB1\*1404 :

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gcgggtgcggtlccctggacagatattccataaaccaggaggagltcgtgcgttcgacagcgacgtgggggagtag  
25 cgggcgggtgacggagctggggcggcctgctgcggagcacaggacagccagaaggacctcctggagcggaggcggg  
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NO: 2 5 8) ;

DRB1\*140501 :

cacgtttcttggagtlactctacgtctgagtgicaAtttcttcaatgggacggagcgggtgcggttccctggacagata  
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cctgatgcTgagtlaciggaacagccagaaggaccttctggagcggaggcgggcccagggtggacacctatTgcagac  
5 acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 2 5 9) ;

DRB1\*140502 :

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ccigtatgccgagtlaciggaacagccagaaggaccttctggagcggaggcgggcccagggtggacacctatTgcagac  
10 acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 2 6 0) ;

DRB1\*1406 :

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ccigtatgccgagtlaciggaacagccagaaggaccttctggagcagaggcgggcccagggtggacacctactgcagac  
15 acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 2 6 1) ;

DRB1\*140701 :

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cctgCtgcggagcactiggaacagccagaaggaccttctggagcggaggcgggcccAggtggacacctatTgcagac  
20 acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 2 6 2) ;

DRB1\*140702 :

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cctgCtgcggagcactiggaacagccagaaggaccttctggagcggaggcgggcccagggtggacacctatTgcagac  
25 acaactacggggttgtGgagagcttcacGgtgcagcggcgag (SEQ ID NO: 2 6 3) ;

DRB1\*1408 :

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acaactacggggtgtGgagagcttcacagtcagcggcgga (SEQ ID NO: 2 6 4) ;

DRB1\*1409 :

- 5 tttcttggaglac tctaCgtctgaGtgicatttcttcaatgggacggagcgggtgcggttcc tggacagatacttc  
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atgccgagtlacttggacagccagaaggacctcc tggagcagaggcgggccgcggtggacacctac tgcagacacaa  
ctacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 2 6 5) ;

DRB1\*1410 :

- 10 tttcttggagcaggtttaaACAtgagtgicatttcttcaatgggacggagcgggtgcggttcc tggacagatacttcc  
ataaccaggaggagttcgtgcgttcgacagcgacgtgggggagtlaccgggcgggtgacggagctggggcggcc tgc  
tgcggagcac tggacagccagaaggacctcc tggagcggaggcgggccgAggtggacacctatTgcagacacaa  
tlaccggggtgtGgagagcttcacagtcagcgg (SEQ ID NO: 2 6 6) ;

DRB1\*1411 :

- 15 gactactctacgggtgagtgTatttcttcaatgggacggagcgggtgcggttcc tggacagatacttccataacc  
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gtacttggacagccagaaggacctcc tggagcggaggcgggccgAggtggacacctatTgcagacacaa tgcggg  
gttgtGg (SEQ ID NO: 2 6 7) ;

DRB1\*1412 :

- 20 gtctgagtgicatttcttcaatgggacggagcgggtgcggttcc tggacagatacttccataaccaggaggagAAC  
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gccagaaggacctcc tggacagcaggcgggccTgg tggacacctac tgcagacacaa tgcggggtgtGg (SEQ  
ID NO: 2 6 8) ;

DRB1\*1413 :

- 25 gactactctacgtctgagtgicatttcttcaatgggacggagcgggtgcggttcc tggacagatacttccataacc  
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gttggg(SEQ ID NO: 2 6 9) ;

DRB1\*1414 :

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5 tggcagtlactggaacagccagaaggaccttctggagcggaggcgggcccAggtggacacctatgacagacacaac  
taccgggttggtagagcttcacagt(SEQ ID NO: 2 7 0) ;

DRB1\*1415 :

ctctacgggtgagtgtTatttcttcaatgggacggagcgggtgcggttccctggacagatacttccataaccaggag  
gagtTcgtgcgcttcgacagcgacgtgggggagtlaccgggcgggtgacggagctggggcggccigtatggcagtlact  
10 ggaacagccagaaggacttcttggaaagacaggcgggcccTggtggacacctactgcagacacaacttaccgggttgt  
Ggagagcttcacagtgcag(SEQ ID NO: 2 7 1) ;

DRB1\*1416 :

tiggagtactctacgtctgagtgctcatttcttcaatgggacggagcgggtgcggttccctggacagatacttccata  
accaggaggagttcgtgcgcttcgacagcgacgtgggggagtlaccgggcgggtgacggagctggggcggccigtCtgc  
15 ggagcacitggaacagccagaaggacAtcttggaaagacGAgcgggcccgggtggacacctactgcagacacaacttacc  
gggttgtGgag(SEQ ID NO: 2 7 2) ;

DRB1\*1417 :

cacgtttcttggagtactctacgtctgaGtgctcatttcttcaatgggacggagcgggtgcggttccctggaCagata  
cttccataaccaggaggagAacgtgcgcttcgacagcgacgtgggggagtlaccgggcgggtgacggagctggggcgg  
20 cctgatggcagtlactggaacagccagaaggaccttctggagcagaggcgggcccgggtggacacctactgcagac  
acaacttaccgggttgtGgagagcttcacagtgcagcgg(SEQ ID NO: 2 7 3) ;

DRB1\*1418 :

gagtactctacgtctgagtgctcatttcttcaatgggacggagcgggtgcggttccctggagagatacttccataacc  
aggaggagAACgtgcgcttcgacagcgacgtgggggagtlaccgggcgggtgacggagctggggcggccigtatgCTga  
25 gtactggaacagccagaaggaccttctggagcggaggcgggcccAggtggacacctatgacagacacaacttaccggg  
gttgtGgagagcttcacagtgcagcggcga(SEQ ID NO: 2 7 4) ;

DRB1\*1419 :

ggggacaccagaccacgtttcttggAgtaacttaCgtctgagtgtaatttcttcaatgggacggagcgggtgcggt  
tcttggagagatacttccataaccaggaggagAACgtgcgttcgacagcgacgtgggggagtagcgggcggtagc  
ggagctggggcggcctgatgccgagtagtgaacagccagaaggaccttctggagcagaAgcgggcccgggtggac  
acctactgcagacacaactacggggtaggtgagagcttcaca (SEQ ID NO: 275) ;

## 5 DRB1\*1420 :

ttggagtactctacgtctgagtgtaatttcttcaatgggacggagcgggtgcggttcttggagagatacttccata  
accaggaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggcctgatgc  
cgagtagtgaacagccagaaggaccttctggagcagaggcgggcccggtagcacctactgcagacacaactac  
ggggtagtGgaga (SEQ ID NO: 276) ;

## 10 DRB1\*1421 :

ttggagtactctacgtctgagtgtaatttcttcaatgggacggagcgggtgcggttcttggagagatacttccata  
accaggaggagAACgtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggcctgatgc  
cgagtagtgaacagccagaaggaccttctggagcagaAgcgggcccggtagcacctactgcagacacaactac  
ggggtagtGgaga (SEQ ID NO: 277) ;

## 15 DRB1\*1422 :

cacgtttcttggagtactctacgtctgagtgtaatttcttcaatgggacggagcgggtgcggttcttggacagata  
cttccataaccaggaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctgtctgggagCactgaacagccagaaggaccttcttggagagaCaggcgggcccggtagcacctactgcagac  
acaactacggggtaggtgagagcttcacagtagcagcggcgag (SEQ ID NO: 278) ;

## 20 DRB1\*1423 :

cacgtttcttggagtactctacgtctgagtgtaatttcttcaatgggacggagcgggtgcggttcttggacagata  
cttccataaccaggaggagtagtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgg  
cctgatgccgagtagtgaacagccagaaggaccttctggagcggaggcgggcccAggtggacacctatgcagac  
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## 25 DRB1\*1424 :

ttcttggagtactctacgtctgagtgtaatttcttcaatgggacggagcgggtgcggttcttggagagatacttcc  
ataaccaGaggagAACgtgcgttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcggcctga

tgccgagtagtggaaacagccagaaggacAtccaggagcagGcggggccggtggacacclactgcagacacaa  
tacggggtaggtgagagcttcacagtagcagcgcgag (SEQ ID NO: 280) ;

DRB1\*1425 :

tttcttggagtactctacgtCtagtgtagtcttcttcaatgggacggagcgggtgcggttccaggacagatactt  
5 tataaccaagaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcgccgt  
CtagcgagCactggaaacagccagaaggacTtccaggagaCaggcgggcccggtagcaccclactgcagacaaa  
ctacggggtaggtgagagcttcacagtagcagcgcgag (SEQ ID NO: 281) ;

DRB1\*1426 :

cacgtttcttggagtactctacgtctgagtgtagtcttcttcaatgggacggagcgggtgcAgttccaggacagata  
10 ctccataaccaggaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcg  
ccgtctgcggagcactggaaacagccagaaggacctccaggagcggagcgggcccaggtagcaccclactgcagac  
aaactacggggtagtGgagagcttcacagtagcagcgcgag (SEQ ID NO: 282) ;

DRB1\*1427 :

cacgtttcttggagtactctacgtctgagtgtagtcttcttcaatgggacggagcgggtgcggttccaggagata  
15 ctccataaccaggaggagAACgtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcg  
ccgtatgccgagtagtggaaacagccagaaggacctccaggagcggagcgggcccaggtagcaccclactgcagac  
aaactacggggtagtGgagagcttcacagtagcagcgcgag (SEQ ID NO: 283) ;

DRB1\*1428 :

cacgtttcttggagtactctacggtagtgtagtcttcttcaatgggacggagcgggtgcggttccaggacagata  
20 ctccataaccaggaggagtagctgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcg  
ccgtCtagcgagcactggaaacagccagaaggacctccaggagcggagcgggcccaggtagcaccclactgcagac  
aaactacggggCtagtGgagagcttcaca (SEQ ID NO: 284) ;

DRB1\*1429 :

cacgtttcttggagtactctacgtctgagtgtagtcttcttcaatgggacggagcgggtgcggttccaggagata  
25 ctccataaccaGaggagAACgtgcgcttcgacagcgacgtgggggagtagcgggcggtagcggagctggggcg  
ccgtatgccgagtagtggaaacagccagaaggacctccaggagcagaggcgggcccggtagcaccclactgcagac  
aaactacggggCtagtggagagcttcacagtagcagcgcgag (SEQ ID NO: 285) ;

DRB1\*1430 :

tttcttggagtlactctacgtctgaGtgatcttcttcaatgggacggagcgggtgcggttccctggaCagatacttc  
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5 ctacggggttggtagagcttcaca (SEQ ID NO: 286) ;

DRB1\*1431 :

tttcttggagtlactctacgggtgagtgTatttcttcaatgggacggagcgggtgcggttccctggacagatacttc  
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CtgcggagcacitggaacagccagaaggacctccctggagcggaggcgggccgcggtggacacctatTgcagacacaa  
10 ctacggggttgtGgagagcttcaca (SEQ ID NO: 287) ;

DRB1\*1432 :

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15 acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 288) ;

DRB1\*1433 :

tiggagtlactctacgtctgagtgatcttcttcaatgggacggagcgggtgcggttccctggacagatacttccata  
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cgagtlactggaacagccagaaggacctccctggagcagaggcgggccgAggtggacacctactgcagacacaactac  
20 ggggttgtGgagagcttcacagtcagcggc (SEQ ID NO: 289) ;

DRB1\*1434 :

cacgtttcttggagtlactctacgtCtgagtgatcttcttcaatgggacggagcgggtgcggttccctggacagata  
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25 acaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 290) ;

DRB1\*1435 :

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DRB1\*1436 :

5 cactttcttggagttactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcciggacagata  
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DRB1\*1437 :

10 cactttcttggagttactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcciggacagata  
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ccigtatgctgagttactggaacagccagaaggacctcciggagcaggCgcgggccggtggacacctactgcagac  
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DRB1\*1438 :

15 cactttcttggagttactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcciggacagata  
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DRB1\*1439 :

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DRB1\*1440 :

25 cactttcttggagttactctacgtctgagtgctatttcttcaatgggacggagcgggtgcggttcciggagagata  
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ccigtatgccgagttactggaacagccagaaggacctcciggagcaggcgggccCTgtggacacctactgcagac



acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 296) ;

DRB1\*1441 :

cacgtttcttggagttacttctacgtctgagtgctatcttctcaatgggacggagcgggtgcggttCcttgaGagata  
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5 cctgatgccgagttacTggaacagccagaaggacctcctggagcagaggcgggccgggtggacaccttctgcagac  
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DRB1\*1442 :

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10 cctgatgccgagttacTggaacagccagaaggacctcctggagcggaggcgggccgAggtggacaccttctgcagac  
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DRB1\*1443 :

cacgtttcttggagttacttctacgtctgagtgctatcttctcaatgggacggagcgggtgcggttcttggacagata  
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15 cctgatgctgagttacTggaacagccagaaggacctcctggagcggaggcgggccgaggTggacGcctattgcagac  
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DRB1\*1444 :

cacgtttcttggagttacttctacgtctgagtgctatcttctcaatgggacggagcgggtgcggttcttggacagata  
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20 cctgatgctgagttacTggaacagccagaaggacctcctggagcggaggcgggccgaggTggacaccttctgcagac  
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DRB1\*1445 :

cacgtttcttggagttacttctacgtctgagtgctatcttctcaatgggacggagcgggtgcggttcttggacagata  
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25 cctgatgctgagttacTggaacagccagaaggacTtcttggagcggaggcgggccgaggTggacaccttctgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 301) ;

DRB1\*150101 :

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NO: 302) ;  
DRB1\*150102 :  
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10 cctgacgtgagttacgtgaacagccagaaggacatccctggagcaggcgcgggcccggtggacacctactgcagac  
acaactacggAgttgtGgagagcttcacagtgacgg (SEQ ID NO: 303) ;  
DRB1\*150103 :  
cacgtttccctgtggcagcctaagagGgagtgatcttcttcaatgggacggagcgggtgcgggtccctggacagata  
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15 cctgacgtgagttacgtgaacagccagaaggacatccctggagcaggcgcgggcccggtggacacctactgcagac  
acaactacggggtgtGgagagcttcacagtgacgg (SEQ ID NO: 304) ;  
DRB1\*150104 :  
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20 cctgagtcggagttacgtgaacagccagaaggacAtcctggagcaggCgcgggcccgggtggacacctactgcagac  
acaactacggggtgtGgagagcttcacagtgacggcgag (SEQ ID NO: 305) ;  
DRB1\*150201 :  
ggggacacccgaccacgtttccctgtggcagcctaagagGgagtgatcttcttcaatgggacggagcgggtgcgggt  
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25 ggagctggggcgccctgacgtgagttacgtgaacagccagaaggacAtcctggagcaggCgcgggcccgggtggac  
acctactgcagacacaactacggggtgtggagagcttcacagtgacggcgag (SEQ ID NO: 306) ;  
DRB1\*150202 :

gagtgtcatttcttcaatgggacggagcgggtgcggttccitggacagatacttctataaccaggaggagtcggtgc  
gcitcgacagcgacgtgggggagTccgggcggtagcggagctggggcgccigtatgccgagtagtgaacagcca  
gaaggacAtccitggagcagGcggggcccggtaggacacctactgcagacacaactacgggggttggtg (SEQ ID  
NO: 307) ;

5 DRB1\*150203 :

cacgtttccitggcagccaaagaggagtgatcatttcttcaatgggacggagcgggtgcggttccitggacagata  
cttctataaTcaggaggagtcggtgcgcttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgg  
cctgacgtgagtagtgaacagccagaaggacatccitggagcaggcgggccgaggtaggacacctactgcagac  
acaactacgggggttggtg (SEQ ID NO: 308) ;

10 DRB1\*1503 :

ggggacacccgaccacgtttccitggcagccaaagagGgagtgtcatttcttcaatgggacggagcgggtgcggt  
tccitggacagaCatttctataaccaggaggagtcggtgcgcttcgacagcgacgtgggggagTccgggcggtagc  
ggagctggggcgccctgacgcTgagtagtgaacagccagaaggacAtccitggagcaggCcggggcccggtaggac  
acctactgcagacacaactacgggggttgTgagagcttcacagtgcagcgcgag (SEQ ID NO: 309) ;

15 DRB1\*1504 :

ttccitggcagccaaagagGgagtgtcatttcttcaatgggacggagcgggtgcggttccitggacagatacttct  
ataaccaggaggagtcggtgcgcttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgccctga  
cgcTgagtagtgaacagccagaaggacTtccitggagcaggCcggggcccggtaggacacctactgcagacacaac  
tacgggggttgTgagagcttcacagtgcagcg (SEQ ID NO: 310) ;

20 DRB1\*1505 :

ttccitggcagccaaagagGgagtgtcatttcttcaatgggacggagcgggtgcggttccitggacagatacttct  
ataaccaggaggagtcggtgcgcttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgccctga  
cgcTgagtagtgaacagccagaaggacctccitggagcaggCcggggcccggtaggacacctactgcagacacaac  
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25 DRB1\*1506 :

ctitggcagccaaagaggagtgatcatttcttcaatgggacggagcgggtgcggttccitggacagatacttctata  
accaggaggagtcggtgcgcttcgacagcgacgtgggggagTccgggcggtagcggagctggggcgccctgacgc

tgagtagtggaacagccagaaggacatccaggagcaggcgccggcggtggacacctactgcagacacaactac  
ggggtagtgagagcttcacagtagcagcgcgag (SEQ ID NO: 3 1 2) ;

DRB1\*1507 :

tttccgtggcagccaaagagGgagtgatcttcttcaatgggacggagcgggtgcgggtccaggacagatactt  
5 talaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgccctg  
acgcTgagtagtggaacagccagaaggacAtccaggagcaggCgcgggccggtggacacctactgcagacacaa  
ctacggggtagtGgagagc (SEQ ID NO: 3 1 3) ;

DRB1\*1508 :

cacgtttccgtggcagccaaagaggagtgatcttcttcaatgggacggagcgggtgcgggtccaggacagata  
10 ctcttalaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcg  
ccgacgctgagtagtggaacagccagaagAacatccaggagcaggCgcgggccggtggacacctactgcagac  
acaactacggggtagtgagagcttcacagtagcagcgcgag (SEQ ID NO: 3 1 4) ;

DRB1\*1509 :

cacgtttccgtggcagccaaagaggagtgatcttcttcaatgggacggagcgggtgcgggtccaggacagata  
15 ctcttalaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagtagcAggcggtgacggagctggggcg  
ccgacgctgagtagtggaacagccagaaggacatccaggagcaggCgcgggccggtggacacctactgcagac  
acaactacggggtagtgagagcttcacagtagcagcgcgag (SEQ ID NO: 3 1 5) ;

DRB1\*1510 :

gtttccgtggcagccaaagagGgagtgatcttcttcaatgggacggagcgggtgcgggtccaggacagatactt  
20 ctalaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgcc  
gacgctgagtagtggaacagccagaaggacatccaggagcaggCgcgggccggtggacacctactgcagacaca  
actacggggtagtGgagagc (SEQ ID NO: 3 1 6) ;

DRB1\*1511 :

cacgtttccgtggcagccaaagagGgagtgatcttcttcaatgggacggagcgggtgcgggtccaggacagata  
25 ctcttalaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcg  
ccgacgctgagtagtggaacagccagaaggacAtccaggagcaggCgcgggccggtggacacctactgcagac  
acaactacggggtagtgagagcttcacagtagcagcgcgag (SEQ ID NO: 3 1 7) ;

DRB1\*1512 :

gcacgtttccgtgtggcagcctaagagGgagtgatcatttcttcaatgggacggagcgggtgcggttccctggacagat  
acttctataaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagltccgggcgggtgacggagctggggcg  
gcctaGCccgagttacgtgaacagccagaaggacAtcctggagcaggCgcgggccgcggtggacacctactgcaga  
5 cacaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 318) ;

DRB1\*1513 :

cacgtttccgtgtggcagcctaagagGgagtgatcatttcttcaatgggacggagcgggtgcggttccctggacagata  
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ccctgacgtGgagttacgtgaacagcca...ggacAtcctggagcaggCgcgggccgcggtggacacctactgcagac  
10 acaactacggggttgtGgagagcttcacagtcagcgg (SEQ ID NO: 319) ;

DRB1\*160101 :

atgggtgtgtcgaagctcccctggaggctccctgcatgacagcgctgacagtgacactgatgggtgtgagctccccac  
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gcgggtgcggttccctggacagatacttctataaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagttac  
15 cgggcgggtgacggagctggggcgccctgacgtgagttacgtgaacagccagaaggacTtccctggaagacaggcgCg  
ccgcggtggacacctactgcagacacaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID  
NO: 320) ;

DRB1\*160102 :

cggtttccgtgtggcagcctaagagGgagtgatcatttcttcaatgggacggagcgggtgcggttccctggacagatact  
20 tctataaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagtlaccgggcgggtgacggagctggggcgcc  
tgacgtgagttacgtgaacagccagaaggacTtccctggaagaCaggcgggccgcggtggacacctactgcagacac  
aactacggggttggtgagagcttcaca (SEQ ID NO: 321) ;

DRB1\*160201 :

atgggtgtgtcgaagctcccctggaggctccctgcatgacagcgctgacagtgacactgatgggtgtgagctccccac  
25 tggctttggctggggacacccgaccacgtttccgtgtggcagcctaagagGgagtgatcatttcttcaatgggacgga  
gcgggtgcggttccctggacagatacttctataaaccaggaggagtcggtgcgcttcgacagcgacgtgggggagttac  
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DRB1\*160202 :

tttccctgtggcagccaaagagGgagtgatcttcttcaatgggacggagcgggtgcggttccctggacagatacttc  
5 talaaccaggaggagtcctgtcgcttcgacagcgacgtgggggaglacgggcgggtgacggagctggggcggccctg  
acgtgagttacgtgaacagccagaaggacctcttgaagaCaggcgggcccgggtggacacctacgcagacacaa  
ctacggggtlgtg (SEQ ID NO: 3 2 3) ;

DRB1\*1603 :

atggtgtgtctgaagctcccggaggctcttgcatgacagcgctgacagtgacacgtatggtgtgagctcccac  
10 tggctttggctggggacacccgaccacgttcttctgtggcagccaaagaggagtgatcttcttcaatgggacgga  
gcgggtgcggttccctggacagatacttctataaccaggaggagtcctgtcgcttcgacagcgacgtgggggagtac  
cgggcgggtgacggagctggggcggccctgacgtgagttacgtgaacagccagaaggacctcttgaagaacaggcCg  
ccgcggtggacacctacgcagacacaactacggggtlgtgagagcttcacagtcagcggcgag (SEQ ID  
NO: 3 2 4) ;

15 DRB1\*1604 :

tggcagccaaagaggagtgatcttcttcaatgggacggagcgggtgcggttccctggacagatacttctataacc  
aGaggagtcctgtcgcttcgacagcgacgtgggggaglacgggcgggtgacggagctggggcggccctgacgcTga  
gtacttgaacagccagaaggacTtcttgaagaCaggcgggcccTggtggacacctacgcagacacaactacggg  
gtlgtg (SEQ ID NO: 3 2 5) ;

20 DRB1\*1605 :

ctgtggcagccaaagagGgagtgatcttcttcaatgggacggagcgggtgcggttccctggacagatacttctata  
accaggaggagtcctgtcgcttcgacagcgacgtgggggaglacgggcgggtgacggagctggggcggccctgacgc  
tgagttacttgaacagccagaaggacAtcttgaagacaggcgCgccggtggacacctacgcagacacaactac  
ggggtlgtgag (SEQ ID NO: 3 2 6) ;

25 DRB1\*1607 :

cacgttctctgtggcagccaaagaggagtgatcttcttcaatgggacggagcgggtgcggttccCggacagata  
cttctataaccaggaggagtcctgtcgcttcgacagcgacgtgggggaglacgggcgggtgacggagctggggcgg

ccTgacGctgagTactTggaacagccagaaggacaTccTggaagacaggcgcgccggtTggacacctactGcagac  
acaactacggggTtggtGagagctTcacagtGca (SEQ ID NO: 3 2 7) ;

DRB1\*1608 :

cacgtTtccTgTggcagccTaaGagGgagTgtcattTctTcaatgggacggagcggTgcggtTccTggacagata  
5 cTtctataaccaggaggagaAcgtGcgctTcgacagcgacgtTgggggagTaccgggcggTgacggagctTgggcgg  
ccTgacGctgagTactTggaacagccagaaggacTtccTggaagacaggcgcgccggtTggacacctactGcagac  
acaactacggggTtggtGagagctTcacagtGcagcggcgag (SEQ ID NO: 3 2 8) ;

DRB3\*010101 :

ggggacacccgaccacgtTtctTggagctGcGlaagctGagTgtcattTctTcaatgggacggagcggTgcggt  
10 accTggaCagatactTccataaccaggaggagTtCtGcgctTcgacagcgacgtTgggggagTaccgggcggTgac  
ggagctTgggcggccTgtGccgagTccTggaacagccagaaggacctccTggagcagaagcggggccGggtggac  
aaTtactGcagacacaactacggggTtggtGagagctTcacagtGcagcggcgag (SEQ ID NO: 3 2 9) ;

DRB3\*01010201 :

aTggTgtGctGaagctccTggaggcTccagctTggcagcgtTgacagTgacactGaTggTgtGagctcccgac  
15 TggctTtCgctggggacacccgaccacgtTtctTggagctGcGlaagctGagTgtcattTctTcaatgggacgga  
gcgggtTgcggtaccTggacagatactTccataaccaggaggagTtccTgcgctTcgacagcgacgtTgggggagTac  
cgggcggTgacggagctTgggcggccTgtGccgagTccTggaacagccagaaggacctccTggagcagaagcggg  
gccGggtggacaattactGcagacacaactacggggTtggtGagagctTcacagtGcagcggcgag (SEQ ID  
NO: 3 3 0) ;

20 DRB3\*010103 :

ggggacacccgaccacgtTtctTggagctGcGlaagctGagTgtcattTctTcaatgggacggagcggTgcggt  
accTggaCagatactTccataaccaggaggagTtCtGcgctTcgacagcgacgtTgggggagTaccgggcggTgac  
ggagctTgggcggccTgtGccgagTccTggaacagccagaaggacctccTggagcagaagcggggccGggtggac  
aaTtactGcagacacaactacggggTtggtGagagc (SEQ ID NO: 3 3 1) ;

25 DRB3\*010104 :

cacgtTtctTggagctGcGlaagctGagTgtcattTctTcaatgggacggagcggTgcggtaccTggacagata  
ctTccataaccaggaggagTtccTgcgctTcgacagcgacgtTgggggagTaccgggcggTgacggagctTgggcgg

ccgtgcgccgagtcctggaacagccagaaggacctcctggagcagaagcggggccgggtggacaaTtactgcagac  
acaactacggAggttggg(SEQ ID NO: 3 3 2) ;

DRB3\*0102 :

ggggacacccgaccacgttcttggagcgtGtaagtcgtagtgicatttcttcaatgggacggagcgggtgcggt  
5 acctggaCagatacttccataaccaggaggagttcCtgcgcttcgacagcgacgtgggggaglacggggcggtagc  
ggagctggggcggcctgtCgccgagtcctggaacagccagaaggacctcctggagcagaagcggggccGggtggac  
aaTtactgcagacacaactacggggttggtagagc(SEQ ID NO: 3 3 3) ;

DRB3\*0103 :

cacgttcttggagctgcGtaagtcgtagtgicatttcttcaatgggacggagcgggtgcggtacctggaGagata  
10 ctccataaccaggaggagttcCtgcgcttcgacagcgacgtgggggaglacggggcggtagcgagctggggcgg  
cctgtCgccgagtcctggaacagccagaaggacctcctggagcagaagcggggccGggtggacaaTtactgcagac  
acaactacggggttggtagagc(SEQ ID NO: 3 3 4) ;

DRB3\*0104 :

cacgttcttggagctgcGtaagtcgtagtgicatttcttcaatgggacggagcgggtgcggtacctggaCagata  
15 ctccataaccaggaggagttcCtgcgcttcgacagcgacgtgggggaglacggggcggtagcgagctggggcgg  
cctgtCgccgagtcctggaacagccagaaggacctcctggagcagaagcggggccGggtggacaaTtactgcagac  
acaactacggggttggtagagcttcaca(SEQ ID NO: 3 3 5) ;

DRB3\*0105 :

cacgttcttggagctgcGtaagtcgtagtgicatttcttcaatgggacggagcgggtgcggtacctgAacagata  
20 ctccataaccaggaggagttcCtgcgcttcgacagcgacgtgggggaglacggggcggtagcgagctggggcgg  
cctgtgcgccgagtcctggaacagccagaaggacctcctggagcagaagcggggccgggtggacaaTtactgcagac  
acaactacggggttggtagagcttcacagtcagcggcg(SEQ ID NO: 3 3 6) ;

DRB3\*0106 :

cacgttcttggagctgcGtaagtcgtagtgicatttcttcaatgggacggagcgggtgcggtacctggaCagata  
25 ctccataaccaggaggagttCgtgcgcttcgacagcgacgtgggggaglacggggcggtagcgagctggggcgg  
cctgtCgccgagtcctggaacagccagaaggacctcctggagcagaagcggggccGggtggacaaTtactgcagac  
acaactacggggttggtag(SEQ ID NO: 3 3 7) ;



DRB3\*0107 :

cacgtttcttggagctgcGtaagtcigagtgctatttcttcaatgggacggagcgggtgcggtaccitggacagata  
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cctgatgccgagtagtggaaacagccagaaggacctcctggagcagaAgcggggccAggtggacaaTtactgcagac  
5 acaactacggggttggtg(SEQ ID NO: 3 3 8) ;

DRB3\*0108 :

cacgtttcttggagctgcGtaagtcigagtgctatttcttcaatgggacggagcgggtgcggtaccitggacagata  
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cctgtGcccgagtcctggaaacagccagaaggacctcctggagcagaagcggggccGgtggacaaTtactgcagac  
10 acaactacggggttggtgagagcttcacagtcagcgg(SEQ ID NO: 3 3 9) ;

DRB3\*0109 :

cacgtttcttggagctgcGtaagtcigagtgctatttcttcaatgggacggagcgggtgcggttcttgagagaca  
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cctgtGcccgagtcctggaaacagccagaaggacctcctggagcagaagcggggccGgtggacaaTtactgcagac  
15 acaactacggggttggtgagagcttcacagtcagcgg(SEQ ID NO: 3 4 0) ;

DRB3\*0110 :

cacgtttcttggagctgcGtaagtcigagtgctatttcttcaatgggacggagcgggtgcggtaccitggacagata  
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20 acaactacggggttggtg(SEQ ID NO: 3 4 1) ;

DRB3\*0201 :

atgggtgtctgaagctcccaggagctccagcttggcagcgttgacagtgacactgaatgggtgtgagctcccgac  
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25 cgggcggtgaggagctggggcggcctgatgccgagtagtggaaacagccagaaggacctcctggagcagaagcggg  
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NO: 3 4 2) ;

DRB3\*020201 :

ggggacacccgaccacgtttcttgGagcigcttaagictgagtgicatttcttcaatgggacggagcgggtgcggt  
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ggagciggggcgccctgaigccgagtlactggaacagccagaaggacctcctggagcagaagcggggccagggtggac  
5 aaTtactgcagacacaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 4 3) ;

DRB3\*020202 :

cacgtttcttggagcigcttaagictgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaCa  
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ccigatgccgagtlactggaacagccagaaggacctcctggagcagaagcggggccAggtggacaActactgcagac  
10 acaactacggggttggtg (SEQ ID NO: 3 4 4) ;

DRB3\*020203 :

cacgtttcttggagcigcttaagictgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaca  
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ccigatgccgagtlactggaacagccagaaggacctcctggagcagaagcggggccagggtggacaattactgcagC  
15 acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 4 5) ;

DRB3\*020204 :

cacgtttcttggagcigcttaagictgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaca  
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ccigatgcGgagtlactggaacagccagaaggacctcctggagcagaagcggggccagggtggacaaTtactgcagac  
20 acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 4 6) ;

DRB3\*0203 :

tiggagcigcttaagictgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaCacttccata  
accaGgaggagtcggtgcgcttcgacagcgacgtgggggagtlaccgggcggtgaGggagciggggcgccctgaigc  
cgagtlactggaacagccagaaggacctcctggagcagaagcggggccagggtggacaaTtactgcagacacaactac  
25 ggggttggtgaga (SEQ ID NO: 3 4 7) ;

DRB3\*0204 :

cacgtttcttggagcigcttaagictgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaca

cttccataaccaggaggagtagcgcgcttcgacagcgacgtgggggagtagcggcggtgaGggagctggggcgcc  
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acaactacggggttgGgagagcttcacagtagcggcgag (SEQ ID NO: 3 4 8) ;

DRB3\*0205 :

5 cgtttcttggagctgcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttccctggagagatact  
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tgatgccgagtagtggaacagccagaaggacctcctggagcagaagcggggccaggtaggacaaTtactgcagacac  
aaactacggggttggtgagagcttcacagtagcag (SEQ ID NO: 3 4 9) ;

DRB3\*0206 :

10 cactttcttggagctgcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttccctggagagaca  
cttccataaccaggaggagAacgCgcgcttcgacagcgacgtgggggagtagcggcggtgaGggagctggggcgcc  
cctgaigccgagtagtggaacagccagaaggacctcctggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggggttggtg (SEQ ID NO: 3 5 0) ;

DRB3\*0207 :

15 ttggagctgcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttccctggagagacattccata  
accaggaggagtagcgcgcttcgacagcgacgtgggggagtagcggcggtgaGggagctggggcgccctgTCgc  
cgagtagtggaacagccagaaggacctcctggagcagaagcggggccaggtaggacaaTtactgcagacacaactac  
ggggttggtgagag (SEQ ID NO: 3 5 1) ;

DRB3\*0208 :

20 cactttcttggagctgcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttccctggagagaca  
cttccataaccaggaggagtagcgcgcttcgacagcgacgtgggggagtagcggcggtgaGggagctggggcgcc  
cctaGCccgagtagtggaacagccagaaggacctcctggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggggttggtg (SEQ ID NO: 3 5 2) ;

DRB3\*0209 :

25 cactttcttggagctgcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttccctggagagaca  
cttccataaccaggaggagtagCgcgcttcgacagcgacgtgggggagtagcggcggtgacggagctggggcgcc  
cctgtcgccgagtagtggaacagccagaaggacctcctggagcagaagcggggccAggtggacaaTtactgcagac

acaactacggggttggtgagagcttcaca (SEQ ID NO: 3 5 3) ;

DRB3\*0210 :

ggggacacccgaccacgtttcttgGagcigcttaagctgagtgicatttcttcaatgggacggagcgggtgcggt  
tcciggagagaCacttccataaaccaggaggagtagcGcgcttcgacagcgacgtgggggagtagccggcggtgac  
5 ggagctggggcgccctgatgccgagtagtgaacagccagaaggacctcciggagcagaagcggggccAggtggac  
aaTtactgcagacacaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 5 4) ;

DRB3\*0211 :

ggggacacccgaccacgtttcttgagcigcttaagctgagtgicatttcttcaatgggacggagcgggtgcggt  
tcciggagagacacttccataaaccaggaggagtagcGcgcttcgacagcgacgtgggggagtagccggcggtgaG  
10 ggagctggggcgccctgatgccgagtagtgaacagccagaaggacAtcciggagcagaagcggggccaggtaggac  
aaTtactgcagacacaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 5 5) ;

DRB3\*0212 :

cacgtttcttgagcigcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaCa  
cttccataaaccaggaggagtagcGcgcttcgacagcgacgtgggggagtagccggcggtgaGggagctggggcgg  
15 cctgatgccgagtagtgaacagccagaaggacctcciggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 5 6) ;

DRB3\*0213 :

cacgtttcttgagcigcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaca  
cttccataaaccaggaggagtagcGcgcttcgacagcgacgtgggggagtagccggcggtgagggagctggggcgg  
20 cctgatgccgagtagtgaacagccagaaggacctcciggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 5 7) ;

DRB3\*0214 :

cacgtttcttgagcigcttaagctgagtgicatttcttcaatgggacggagcgggtgcggttcciggagagaca  
cttccataaaccaggaggagtagcGcgcttcgacagcgacgtgggggagtagccggcggtgagggagctggggcgg  
25 cctgatgccgagtagtgaacagccagaaggacctcciggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggggttgCtgagagcttcacagtcagcggcgag (SEQ ID NO: 3 5 8) ;

DRB3\*0215 :

cacgtttcttggagctgcttaagtcgagtgctatcttcaatgggacggagcgggtgcggttccctggagagaCa  
cttccataaccaggaggagtagCgcgccttcgacagcgacgtgggggagtagccgggcggtagGggagctggggcgg  
cctgaltgccgagtagtggaaacagccagaaggaccttctggagcagaagcggggccAggtggacacctactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 3 5 9) ;

5 DRB3\*0216 :

cacgtttcttggagctgcttaagtcgagtgctatcttcaatgggacggagcgggtgcggttccctggagagaca  
cttccataaccaggaggagtagCgcgccttcgacagcgacgtgggggagtagccgggcggtagGggagctggggcgg  
cctgctgcggagCactggaaacagccagaaggaccttctggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 3 6 0) ;

10 DRB3\*0217 :

cacgtttcttggagctgcttaagtcgagtgctatcttcaatgggacggagcgggtgcggttccctggagagaca  
cttccataaccaggaggagtagCgcgccttcgacagcgacgtgggggagtagccgggcggtagGggagctggggcgg  
cctgaltgccgagtagtggaaacagccagaaggaccttctggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggggttggtagagcttcacagtcagcggcgag (SEQ ID NO: 3 6 1) ;

15 DRB3\*030101 :

ggggacacccgaccacgtttcttggagctgcttaagtcgagtgctatcttcaatgggacggagcgggtgcggt  
tccctggagagatcttccataaccaggaggagtagtgcgccttcgacagcgacgtgggggagtagccgggcggtag  
ggagctggggcggcctgtgcggagtagtggaaacagccagaaggaccttctggagcagaagcggggccaggtaggac  
aaTtactgcagacacaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ ID NO: 3 6 2) ;

20 DRB3\*030102 :

cacgtttcttggagctgcttaagtcgagtgctatcttcaatgggacggagcgggtgcggttccctggagagata  
cttccataaccaggaggagtagtgcgccttcgacagcgacgtgggggagtagccgggcggtagcggagctggggcgg  
cctgtgcggagtagtggaaacagccagaaggaccttctggagcagaagcggggccaggtaggacaaTtactgcagac  
acaactacggCgttggagagcttcacagtcagcggcgag (SEQ ID NO: 3 6 3) ;

25 DRB3\*0302 :

cacgtttcttggagctgcttaagtcgagtgctatcttcaatgggacggagcgggtgcggttccctggagagaCa  
cttccataaccaggaggagtagtgcgccttcgacagcgacgtgggggagtagccgggcggtagcggagctggggcgg

ccgtgctgccgagtcctgggaacagccagaaggacctccctggagcagaagcggggccaggctggacaaTtactgcagac  
acaactacggggttgtGg (SEQ ID NO: 3 6 4) ;

DRB3\*0303 :

ttcttggagctgcttaagctlgagtgctcatlcttcaatgggacggagcgggtgcggttccctggaGagatacttc  
5 calaaccaggaggagTcgtgcgcttcgacagcgacgtgggggaglacgggcggtagcgagctggggcgccctg  
tCgccgagtcctgggaacagccagaaggacctccctggagcagaagcggggccGggtggacaaTtactgcagacaaa  
ctacggggttggtagagcttcaca (SEQ ID NO: 3 6 5) ;

DRB4\*010101 :

algggtgtgtcgaagctccctggaggctccctgtaaggcagcgctgacagtgacatigaCgggtgtgagctccccac  
10 tggcttggctggggacaccaaccacgttcttggagcaggctaagtgtgagtgctcatlcttcaatgggacgga  
gcgagtgltggaacctgatcagatatactataaccaagaggagtagcgcgctacaacagtgacctgggggagtag  
caggcggtagcgagctggggcgccctgacgtgagtagtgggaacagccagaaggacctccctggagcggaggcggg  
ccgaggltggacacctactgcagatataactacggggttggtagagcttcacagtgacggcgag (SEQ ID  
NO: 3 6 6) ;

15 DRB4\*0102 :

gagcgagtgltggaacctgatcagatatactataaccaagaggagtagcgcgctacaacagtgacctgggggagtag  
accaggcggtagcgagctggggcgccctgacgtgagtagtgggaacagccagaaggacctccctggagcggaggcg  
ggccgaggtagGcacctactgcagatataactacggggttggtagagcttcacagtgacggcgag (SEQ ID  
NO: 3 6 7) ;

20 DRB4\*010302 :

ggggacaccaaccacgttcttggagcaggctaagtgtgagtgctcatlcttcaatgggacggagcgagtgltgga  
aCctgatcagatatactataaccaagaggagtagcgcgctacaacagtgacctgggggagtagcaggcggtgac  
ggagctggggcgccctgacgtgagtagtgggaacagccagaaggacctccctggagcggaggcgggccgaggtaggac  
acctactgcagaTacaactacggggttggtagagcttcacagtgacggcgag (SEQ ID NO: 3 6 8) ;

25 DRB4\*010303 :

atgggtgtgtcgaagctccctggaggctccctgtaaggcagcgctgacagtgacatigaCgggtgtgagctccccac  
tggcttggctggggacaccaaccacgttcttggagcaggctaagtgtgagtgctcatlcttcaatgggacgga

gcgagtggtggaacctgatcagatatactataaccaagaggagtagcgcgctacaacagtaccctgggggagtag  
caggcggtagcggagctggggcgccctgacgctgagtagctggaacagccagaaggacctccctggagcggaggcggg  
ccgaggtggacacctatgacagatataacacacggggctgtaggagagcttcacagtcagcggcgag (SEQ ID  
NO: 369) ;

5 DRB4\*010304 :

cacgtttcttggagcaggctaagtgtagtgtagctttctcaatgggacggagcgagtgtaggaacctgatcagata  
catctataaccaagaggagtagcgcgctacaacagtgaTctgggggagtagcaggcggtagcggagctggggcgg  
ccctgacgctgagtagctggaacagccagaaggacctccctggagcggaggcgggcccaggtaggacacctactgcagat  
acaactacggggctgtaggagagcttcacagtcagcggcgag (SEQ ID NO: 370) ;

10 DRB4\*0104 :

cacgtttcttggagcaggctaagtgtagtgtagctttctcaatgggacggagcgagtgtaggaacctgatcagata  
catctataaccaagaggagtagcgcgctacaacagtaccctgggggagtagcaggcggtagcggagctggggcgg  
ccctgacgctgagtagctggaacagccagaaggacctccctggagcggaggcgggcccaggtaggacacctactgcagaT  
acaactacggggctgtaggagagcttcacagtcagcggcgag (SEQ ID NO: 371) ;

15 DRB4\*0105 :

ttggagcaggctaagtgtagtgtagctttctcaatgggacggagcgagtgtaggaacctgatcagatacatctata  
accaagaggagtagcgcgctacaacagtaccctgggggagtagcaggcggtagcggagctggggcgccctgacgc  
tagtagctggaacagccagaaggacctccctggagcggaggcgggcccaggtaggacacctactgcagacacaactac  
ggggctgtaggag (SEQ ID NO: 372) ;

20 DRB4\*0106 :

cacgtttcttggagcaggctaagtgtagtgtagctttctcaatgggacggagcgagtgtaggaacctgatcagata  
catctataaccaagaggagtagcgcgctacaacagtaccctgggggagtagcaggcggtagcggagctggggcgg  
ccctgacgctgagtagctggaacagccagaaggacctccctggagcggaggcgggcccaggtaggacacctactgcagaT  
acaactacggggctgtaggagagcttcacagtcagcggcgag (SEQ ID NO: 373) ;

25 DRB4\*0201N :

ggtagctgagctccccactggctttggctggggacacccAaccacgtttcttggagcaggctaagtgtagtgtagct  
ttctcaatgggacggagcctgatcagatacatctataaccaagaggagtagcgcgctacaacagtaccctggg

gagtagcaggcggtagcggagctggggcgccagcgtgagtagtggaacagccagaaggacctccaggagcgga  
ggcgggccgaggtagcaccctacgcagatacaactacggggttgtGgagagcttcacagtcagcggcgag (SEQ  
ID NO: 374) ;

DRB5\*010101 :

5 atggigtgtcgaagctcccaggagttcctacatggcaaAgctgacagtgacactgatgggtgtagctccccac  
tggctttggctggggacacccgaccacgtttcttcagcaggataagtagtagtgatcttcttcaacgggacgga  
gcgggtgagggttcttcacagagacatctataaccaagaggaggacttgcgttcgacagcgacgtgggggagtag  
cgggcggtgacggagctggggcgccagcgtgagtagtggaacagccagaaggacctccaggagacaggcgcg  
ccgaggtagcacctacgcagacacaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID  
10 NO: 375) ;

DRB5\*010102 :

cacgtttcttcagcaggataagtagtagtgatcttcttcaacgggacggagcgggtgagggttcttcacagaga  
catctataaccaagaggaggacttgcgttcgacagcgacgtgggggagtagccggcggtgacggagctggggcg  
ccagcgtgagtagtggaacagccagaaggacttccaggaaGacaggcgggcgcggtggacacctacgcagac  
15 acaactacggggttggtgagagcttcaca (SEQ ID NO: 376) ;

DRB5\*0102 :

ggggacacccgaccacgtttcttcagcaggataagtagtagtgatcttcttcaacgggacggagcgggtgagggt  
tcttcacagaggcatctataaccaagaggagAacgtgcgttcgacagcgacgtgggggagtagccggcggtgac  
ggagctggggcgccagcgtgagtagtggaacagccagaaggacttccaggaaGacaggcgCgcccgggtggac  
20 acctacgcagacacaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 377) ;  
DRB5\*0103 ;

ttgcagcaggataagtagtagtgatcttcttcaacgggacggagcgggtgagggttcttcacagagGgcatctata  
accaagaggagaacgtgcgttcgacagcgacgtgggggagtagccggcggtgacggagctggggcgccagcgt  
tagtagtagtggaacagccagaaggacttccaggagacaGcgCgcccgggtggacacctacgcagacacaactac  
25 ggggttggtgagagcttcacag (SEQ ID NO: 378) ;

DRB5\*0104 :

ggggacacccgaccacgtttcttcagcaggataagtagtagtgatcttcttcaacgggacggagcgggtgagggt



tccigcacagagacaiciataaccaagaggaggacTigcgcitcgacagcgacigggggaglacggggcggigac  
ggagciggggcggccigacgcigaglaciggaacagccagaaggacitcciggaagacaggcgggcccTggtggac  
acctacigcagacacaactacggggttggtgagagcttcacagtcagcgcgag (SEQ ID NO: 379) ;  
DRB5\*0105 :

5 ccacgtttctigcagcaggataagiatgagtgicatttcttcaacgggacggagcgggtgcggttccigcacagag  
acaiciataaccaagaggagGacgtgcgcitcgacagcgacigggggaglacgggcggigacggagciggggcg  
gacctgacgcigagtlaciggaacagccagaaggacTtcciggaGacaggcgCgccgcggtggacacctacigcaga  
cacaactacggggttggtgagagcttcacagtcagcgg (SEQ ID NO: 380) ;  
DRB5\*0106 :

10 cacgtttctigcagcaggataagiatgagtgicatttcttcaacgggacggagcgggtgcggttccigcacagaga  
calciataaccaagaggaggacTigcgcitcgacagcgacigggggaglacgggcggigacggagciggggcg  
ccigacgcigagtlaciggaacagccagaaggacitcciggaGacaggcgCgccgcggtggacacctacigcagac  
acaactacggggttggtgagagcttcacagtcagcggcga (SEQ ID NO: 381) ;  
DRB5\*0107 :

15 cacgtttctigcagcaggataagiatgagtgicatttcttcaacgggacggagcgggtgcggttccigcacagaga  
calciataaccaagaggaggacTigcgcitcgacagcgacigggggaglacgggcggigacggagciggggcg  
ccigacgcigagtlaciggaacagccagaaggacitcciggaGacaggcgCgccgcggtggacacctacigcagac  
acaactacggggttggtg (SEQ ID NO: 382) ;  
DRB5\*0109 :

20 cacgtttctigcagcaggataagiatgagtgicatttcttcaacgggacggagcgggtgcggttccigcacagaga  
calciataaccaagaggaggactigcgcitcgacagcgacigggggaglacgggcggigacggagciggggcg  
ccigacgcigagtlaciggaacagccagaaggacitcciggaAacaggcgCgccgcggtggacacctacigcagac  
acaactacggggttggtg (SEQ ID NO: 383) ;  
DRB5\*0110N :

25 cacgtttctigcagcaggataagiatgagtgicatttcttcaacgggacggagcgggtgcggttccigcacagaGg  
calciataaccaagaggagAacgtgcgcitcgacagcgacigggggaglacgggcggigacggagciggggcg  
ccigacgcigagtlaciggaacagccagaaggacTtcciggaGacaggcgCgccgcggtggacacctacigca...c

acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 384) ;

DRB5\*0111 :

cacgttcttcagcaggataagtaagatgagtgatcttcttcaacgggacggagcgggtgcggttcttcacagaga  
catctataaccaagaggaggacTtgcgcttcgacagcgacgtgggggagtagcgggcggtagcgagctggggcgg  
5 cctgacgctgagtagtggaaacagccagaaggacatcctggagcaggGcgggccgaggtagacacctactgcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 385) ;

DRB5\*0112 :

cacgttcttcagcaggataagtaagatgagtgatcttcttcaacgggacggagcgggtgcggttcttcacagaga  
catctataaccaagaggaggacTtgcgcttcgacagcgacgtgggggagtagcgggcggtagcgagctggggcgg  
10 cctgacgccgagtagtggaaacagccagaaggacatcctggagcGgaggcgggcccaggtagacaccgtGtagcagac  
acaactacggggttggtgagagcttcacagtcagcggcgag (SEQ ID NO: 386) ;

DRB5\*0202 :

atgggtgtgtgaagctccctggaggcttctAcatggcagtgctgacagtgacactgaagggtgtgagctccccac  
tggcttggctggggacaccgaccaatgttcttcagcaggataagtaagatgagtgatcttcttcaacgggacgga  
15 gcgggtgcggttcttcacagaggcatctataaccaagaggagaacgtgcgcttcgacagcgacgtgggggagtag  
cgggcggtagcgagctggggcggcctgacgctgagtagtggaaacagccagaaggacatcctggagcaggcgcggg  
ccgcggtagacacctactgcagacacaactacggggctgtGgagagcttcacagtcagcggcgag (SEQ ID  
NO: 387) ;

DRB5\*0203 :

20 tttcttcagcaggataagtaagatgagtgatcttcttcaacgggacggagcgggtgcggttcttcacagaGgcatc  
tataaccaagaggagAacgtgcgcttcgacagcgacgtgggggagtagcgggcggtagcgagctggggcggcctg  
acgtgagtagtggaaacagccagaaggacAtcctggagcagGcgggccgaggtagacacctactgcagacaaa  
ctacggggttggtgagagcttcacagtcagcgg (SEQ ID NO: 388) ;

DRB5\*0204 :

25 catgttcttcagcaggataagtaagatgagtgatcttcttcaacgggacggagcgggtgcggttcttcacagaGg  
catctataaccaagaggagaacgtgcgcttcgacagcgacgtgggggagtagcgggcggtagcgagctggggcgg  
cctgacgctgagtagtggaaacagccagaaggacTtctggagcaggGcgggccgaggtagacacctactgcagac

acaactacggggcigtGgagagcttcaca (SEQ ID NO: 3 8 9) ;

DRB5\*0205 :

catgtttcttgcagcaggataagtaagatgagtgatcttcttcaacgggacggagcgggtgcgttctgcacagaGg

catctataaccaagaggagAacgtgcgttgcacagcgacgtgggggagtagcgggacggagcggggcgg

5 cctgacgtgagtagtggaaacagccagaaggacctctggagcagaggcgggccgggtggacacctactgcagac

acaactacggggcigtGgagagcttcacagtcagcggcgag (SEQ ID NO: 3 9 0)

In the following, Probe List DR1 and 2 are  
shown in Tables 21-1 to 21-8 and Tables 22-1 to 22-7  
10 respectively. Allele-Probe Lists 1 and 2 are shown  
in Tables 23-1 to 23-13 and Tables 24-1 to 24-13  
respectively.

Table 21-1

Probe No.	Base Sequence
0	g gtg cgg ttg ctg gaA ( SEQ ID No: 391)
1	g cgg ttg ctg gaa aga T ( SEQ ID No: 392)
2	c tat aac caa gag gag tC ( SEQ ID No: 393)
3	ctg ggg cgg cct gaT ( SEQ ID No: 394)
4	ggg cgg cct gat gcC ( SEQ ID No: 395)
5	cac aac tac ggg gtt gG ( SEQ ID No: 396)
6	c atc tat aac caa gag gaA ( SEQ ID No: 397)
7	c gcg gtg gac acc taT ( SEQ ID No: 398)
8	ga cac aac tac ggg gC ( SEQ ID No: 399)
9	ag agg cgg gcc gcC ( SEQ ID No: 400)
10	g aac agc cag aag gac A ( SEQ ID No: 401)
11	g gac atc ctg gaa gac G ( SEQ ID No: 402)
12	gac atc ctg gaa gac gA ( SEQ ID No: 403)
13	g gcc gcg gtg gac aaT ( SEQ ID No: 404)
14	ac aac tac ggg gtt gtG ( SEQ ID No: 405)
15	c ttc gac agc gac gtg A ( SEQ ID No: 406)
16	c ctc ctg gag cag gC ( SEQ ID No: 407)
17	ca cgt ttc ttg tgg G ( SEQ ID No: 408)
18	tc tat aac caa gag gag tA ( SEQ ID No: 409)
19	gac ctc ctg gag cag G ( SEQ ID No: 410)
20	gac ctc ctg gag cag aA ( SEQ ID No: 411)
21	g gag cgg gtg cgg tA ( SEQ ID No: 412)
22	c ctg gac aga tac ttc C ( SEQ ID No: 413)
23	c cat aac cag gag gag A ( SEQ ID No: 414)
24	c cat aac cag gag gag aA ( SEQ ID No: 415)
25	gc gac gtg ggg gag tT ( SEQ ID No: 416)
26	g cag aag cgg ggc cG ( SEQ ID No: 417)
27	g ggc cgg gtg gac aA ( SEQ ID No: 418)
28	g ggc cgg gtg gac aaT ( SEQ ID No: 419)
29	ca cgt ttc ttg gA ( SEQ ID No: 420)
30	g gtg cgg ttc ctg gaG ( SEQ ID No: 421)

Table 21-2

Probe No.	Base Sequence
31	c ctg gag aga tac ttc C ( SEQ ID No: 422)
32	c aga tac ttc cat aac caG ( SEQ ID No: 423)
33	tt ggt gag agc ttc acG ( SEQ ID No: 424)
34	g gtg cgg tac ctg gaC ( SEQ ID No: 425)
35	g ggg cgg cct gat gA ( SEQ ID No: 426)
36	ggg cgg cct gat gaG ( SEQ ID No: 427)
37	c aga tac ttc cat aac cG ( SEQ ID No: 428)
38	ctg ggg cgg cct gC ( SEQ ID No: 429)
39	ag cag aag cgg ggc C ( SEQ ID No: 430)
40	g cag aag cgg ggc cA ( SEQ ID No: 431)
41	gg ggc cag gtg gac aA ( SEQ ID No: 432)
42	ctg ggg cgg cct agC ( SEQ ID No: 433)
43	gg cct gat gcc gag tC ( SEQ ID No: 434)
44	gac gtg ggg gag ttc T ( SEQ ID No: 435)
45	gt ttc ttg gag tac tct aC ( SEQ ID No: 436)
46	g gtg cgg ttc ctg gaC ( SEQ ID No: 437)
47	g tac cgg gcg gtg aG ( SEQ ID No: 438)
48	g ggc cag gtg gac aaT ( SEQ ID No: 439)
49	ttc gac agc gac gtg C ( SEQ ID No: 440)
50	c cat aac cag gag gag tT ( SEQ ID No: 441)
51	c ctg gac aga tac ttc G ( SEQ ID No: 442)
52	c cat aac cag gag gag tA ( SEQ ID No: 443)
53	atg gtg tgt ctg aag T ( SEQ ID No: 444)
54	ga tac ttc tat cac caa gaA ( SEQ ID No: 445)
55	tc ttg gag cag gtt aaa C ( SEQ ID No: 446)
56	c tat cac caa gag gag tA ( SEQ ID No: 447)
57	g cag agg-cgg-gcc-gA ( SEQ ID No: 448)
58	ggg cgg cct gac gcT ( SEQ ID No: 449)
59	c ttg gag cag gtt aaa cA ( SEQ ID No: 450)
60	ctg gac aga tac ttc tat C ( SEQ ID No: 451)

Table 21-3

Probe No.	Base Sequence
61	g ctg ggg cgg cct aG ( SEQ ID No: 452)
62	a gag gag tac gtg cgC ( SEQ ID No: 453)
63	gc ttc aca gtg cag cgA ( SEQ ID No: 454)
64	c ctc ctg gag cag agA ( SEQ ID No: 455)
65	t ttc ttg gag cag gtt aaA ( SEQ ID No: 456)
66	a gac agg cgg gcc cT ( SEQ ID No: 457)
67	g aac agc cag aag gac T ( SEQ ID No: 458)
68	ag gac ttc ctg gaa gaC ( SEQ ID No: 459)
69	gg cgg cct gat gcc C ( SEQ ID No: 460)
70	c ggg gtt gtg gag agA ( SEQ ID No: 461)
71	g gac ctc ctg gag cG ( SEQ ID No: 462)
72	ctg ggg cgg cct gat A ( SEQ ID No: 463)
73	ag tac cgg gcg gtg aT ( SEQ ID No: 464)
74	g ggg gag tac cgg gT ( SEQ ID No: 465)
75	g cag agg cgg gcc C ( SEQ ID No: 466)
76	g cag agg cgg gcc cT ( SEQ ID No: 467)
77	tc ctg gag cag agg cA ( SEQ ID No: 468)
78	caa gag gag tac gtg cA ( SEQ ID No: 469)
79	c ttg gag cag gtt aaa cC ( SEQ ID No: 470)
80	gac ctc ctg gaa gac G ( SEQ ID No: 471)
81	gac ctc ctg gaa gac gA ( SEQ ID No: 472)
82	gac atc ctg gag cag aA ( SEQ ID No: 473)
83	agc gac gtg ggg gaC ( SEQ ID No: 474)
84	g ggg cgg cct gat gG ( SEQ ID No: 475)
85	tc tat cac caa gag gag A ( SEQ ID No: 476)
86	c tat cac caa gag gag aA ( SEQ ID No: 477)
87	g gct ggg gac acc cA ( SEQ ID No: 478)
88	g gac agg cgg ggc C ( SEQ ID No: 479)
89	c cag gtg gac acc gtG ( SEQ ID No: 480)
90	tc ctg tgg cag ggt aaA ( SEQ ID No: 481)

Table 21-4

Probe No.	Base Sequence
91	g gcg gtg acg gag ctA ( SEQ ID No: 482)
92	g cct gtc gcc gag tC ( SEQ ID No: 483)
93	gtg cag ttc ctg gaa agT ( SEQ ID No: 484)
94	ag tcc tgg aac agc cG ( SEQ ID No: 485)
95	gg cgg cct gct gcG ( SEQ ID No: 486)
96	gtg acg gag cta ggg T ( SEQ ID No: 487)
97	c tct acg ggt gag tgt T ( SEQ ID No: 488)
98	cgg ttc ctg gac aga taT ( SEQ ID No: 489)
99	gc tcc tgc atg gca gT ( SEQ ID No: 490)
100	g tac cgg gcg gtg acA ( SEQ ID No: 491)
101	cac aac tac ggg gtt gT ( SEQ ID No: 492)
102	gtt gtt gag agc ttc acG ( SEQ ID No: 493)
103	tt gtg gag agc ttc acG ( SEQ ID No: 494)
104	g ctg ggg cgg cct gT ( SEQ ID No: 495)
105	gg cct gct gcg gag C ( SEQ ID No: 496)
106	gt ttc ttg gag tac tct aG ( SEQ ID No: 497)
107	gg cct gat gcg gag C ( SEQ ID No: 498)
108	tc tat aac caa gag gag G ( SEQ ID No: 499)
109	ag gac atc ctg gaa gaC ( SEQ ID No: 500)
110	g ctg ggg cgg cct aT ( SEQ ID No: 501)
111	c ttg gag tac tct acg tC ( SEQ ID No: 502)
112	gt ttc ttg gag tac tct aT ( SEQ ID No: 503)
113	c aac tac ggg gct gtG ( SEQ ID No: 504)
114	ct gtg gag agc ttc acG ( SEQ ID No: 505)
115	g agc ttc aca gtg cag A ( SEQ ID No: 506)
116	ctg gag cgg agg cgT ( SEQ ID No: 507)
117	g ttg ctg gaa aga cgc G ( SEQ ID No: 508)
118	ctg gag cgg agg cgC ( SEQ ID No: 509)
119	g aag gac ttc ctg gaa G ( SEQ ID No: 510)
120	c ctg gaa gac agg cgC ( SEQ ID No: 511)

Table 21-5

Probe No.	Base Sequence
121	t gag tgt cat ttc ttc aaC ( SEQ ID No: 512 )
122	gac ttc ctg gaa gac gA ( SEQ ID No: 513 )
123	c ttg gag tac tct acg G ( SEQ ID No: 514 )
124	g gac ctc ctg gaa gaC ( SEQ ID No: 515 )
125	g gac ttc ctg gaa gac G ( SEQ ID No: 516 )
126	tc tat aac caa gag gag tT ( SEQ ID No: 517 )
127	c aga tac ttc tat aac caG ( SEQ ID No: 518 )
128	c tat aac cag gag gag tT ( SEQ ID No: 519 )
129	at aac caa gag gag gac T ( SEQ ID No: 520 )
130	cgg agg cgg gcc gA ( SEQ ID No: 521 )
131	cc gag gtg gac acc taT ( SEQ ID No: 522 )
132	aa gac agg cgg gcc C ( SEQ ID No: 523 )
133	ttg gag tac tct acg tC ( SEQ ID No: 524 )
134	gag tac tct acg tct gaG ( SEQ ID No: 525 )
135	cag aag gac ttc ctg gaA ( SEQ ID No: 526 )
136	g gcc gcg gtg gac aA ( SEQ ID No: 527 )
137	ttc tal aac caa gag gag A ( SEQ ID No: 528 )
138	tc tat aac caa gag gag aA ( SEQ ID No: 529 )
139	ca cgt ttc ttg gag cT ( SEQ ID No: 530 )
140	cgg cct gat gag gag C ( SEQ ID No: 531 )
141	a gac agg cgg gcc gT ( SEQ ID No: 532 )
142	g cgg cct gat gag gaC ( SEQ ID No: 533 )
143	g cgg cct gat gag gC ( SEQ ID No: 534 )
144	g ttc cgg gcg gtg aG ( SEQ ID No: 535 )
145	gc tcc tgc atg gca gtT ( SEQ ID No: 536 )
146	ttg gct ggg gac acc A ( SEQ ID No: 537 )
147	g gag cgg gtg cgg ttA ( SEQ ID No: 538 )
148	c cat aac cag gag gag C ( SEQ ID No: 539 )
149	cag aag gac atc ctg gC ( SEQ ID No: 540 )
150	gag cgg gtg cgg ttC ( SEQ ID No: 541 )



Table 21-6

Probe No.	Base Sequence
151	g gaa gac gag cgg gcT ( SEQ ID No: 542 )
152	c ctg gaa gac gag cgC ( SEQ ID No: 543 )
153	g gac atc ctg gaa gac aA ( SEQ ID No: 544 )
154	a cgt ttc ttg gag tac tC ( SEQ ID No: 545 )
155	gg ttc ctg gac aga tac T ( SEQ ID No: 546 )
156	ac atc ctg gag cag gC ( SEQ ID No: 547 )
157	cac aac tac ggg gtt gA ( SEQ ID No: 548 )
158	g aga tac ttc cat aac caG ( SEQ ID No: 549 )
159	c tgc aga cac aac tac C ( SEQ ID No: 550 )
160	t aac cag gag gag aac C ( SEQ ID No: 551 )
161	ac gtg ggg gag ttc cT ( SEQ ID No: 552 )
162	ctg ggg cgg cct gtC ( SEQ ID No: 553 )
163	gg gag ttc cgg gcg T ( SEQ ID No: 554 )
164	ca cgt ttc ttg gag tac T ( SEQ ID No: 555 )
165	tct acg tct gag tgt caA ( SEQ ID No: 556 )
166	ggg cgg cct gat gcT ( SEQ ID No: 557 )
167	t ttc ttg gag tac tct aC ( SEQ ID No: 558 )
168	gac atc ctg gag cag G ( SEQ ID No: 559 )
169	g acg gag cgg gtg cA ( SEQ ID No: 560 )
170	g gcc gag gtg gac aaT ( SEQ ID No: 561 )
171	ttg gag tac cct acg tC ( SEQ ID No: 562 )
172	t aac cag gag gag ttc C ( SEQ ID No: 563 )
173	gg gcc gag gtg gac G ( SEQ ID No: 564 )
174	c tcc cca ctg gct ttg T ( SEQ ID No: 565 )
175	gc aga cac aac tac ggA ( SEQ ID No: 566 )
176	cac aac tac gga gtt gtG ( SEQ ID No: 567 )
177	g tgg cag cct aag agG ( SEQ ID No: 568 )
178	tg gac aga tac ttc tat aaT ( SEQ ID No: 569 )
179	cgg ttc ctg gac aga C ( SEQ ID No: 570 )
180	ac ttc ctg gag cag gC ( SEQ ID No: 571 )

Table 21-7

Probe No.	Base Sequence
181	g gag ttc cgg gcg gC ( SEQ ID No: 572)
182	c tgg aac agc cag aag A ( SEQ ID No: 573)
183	ac gtg ggg gag ttc cA ( SEQ ID No: 574)
184	c tgg aac agc ca ggg gac A ( SEQ ID No: 575)
185	tc ctg gaa gac agg gC ( SEQ ID No: 576)
186	g cgg glg cgg ttc cC ( SEQ ID No: 577)
187	c tat aac cag gag gag aA ( SEQ ID No: 578)
188	cgt ttc ttg gag ctg cG ( SEQ ID No: 579)
189	c tcc cga ctg gct ttc ( SEQ ID No: 580)
190	ca cgt ttc ttg gag ctg T ( SEQ ID No: 581)
191	cgt ttc ttg gag ctg TG ( SEQ ID No: 582)
192	g gtg cgg tac ctg gaG ( SEQ ID No: 583)
193	gt ttc tgg gag ctg cG ( SEQ ID No: 584)
194	cgg gtg cgg tac ctg A ( SEQ ID No: 585)
195	ac cag gag gag tac gC ( SEQ ID No: 586)
196	c cag gag gag ttc ctg A ( SEQ ID No: 587)
197	ca cgt ttc ttg G ( SEQ ID No: 588)
198	cgg ttc ctg gag aga C ( SEQ ID No: 589)
199	gtg gac aat tac tgc agG ( SEQ ID No: 590)
200	ggg cgg cct gat gcG ( SEQ ID No: 591)
201	aga cac ttc cat aac caG ( SEQ ID No: 592)
202	ac cag gag gag aac gC ( SEQ ID No: 593)
203	g gag cgg gtg cgg C ( SEQ ID No: 594)
204	cac aac tac ggg gtf gC ( SEQ ID No: 595)
205	gc aga cac aac tac ggC ( SEQ ID No: 596)
206	g ctg aca gtg aca ttg aC ( SEQ ID No: 597)
207	cgg gcc gag gtg gG ( SEQ ID No: 598)
208	ag tgt gag tgt cat ttc C ( SEQ ID No: 599)
209	g gag cga gtg tgg aaC ( SEQ ID No: 600)
210	g gac acc tac tgc aga T ( SEQ ID No: 601)

Table 21-8

Probe No.	Base Sequence
211	cg cgc tac aac agt gaT ( SEQ ID No: 602)
212	gg gcc gag gtg gac aA ( SEQ ID No: 603)
213	tg gac aac tac tgc aga T ( SEQ ID No: 604)
214	acg gag cga gtg tgg A ( SEQ ID No: 605)
215	a ggt tcc tac atg gca aA ( SEQ ID No: 606)
216	ca cgt ttc ttg C ( SEQ ID No: 607)
217	atc tat aac caa gag gag A ( SEQ ID No: 608)
218	cgg ttc ctg cac aga G ( SEQ ID No: 609)
219	gac ttc ctg gaa gac aC ( SEQ ID No: 610)
220	c ctg gaa gac acg cgC ( SEQ ID No: 611)
221	g aag gac atc ctg gaa G ( SEQ ID No: 612)
222	ag aag gac ttc ctg gaa A ( SEQ ID No: 613)
223	g cct gac gcc gag tC ( SEQ ID No: 614)
224	ag gac ttc ctg gag cG ( SEQ ID No: 615)
225	c gag gtg gac acc gtG ( SEQ ID No: 616)
226	ctc cct gga ggt tcc tA ( SEQ ID No: 617)

Table 22-1

Probe No.	Base Sequence
0	g ttg ctg gaA aga tgc at ( SEQ ID No: 618)
1	ctg gaa aga Tgc atc tat a ( SEQ ID No: 619)
2	gag gag tCc gtg cgc ( SEQ ID No: 620)
3	cgg cct gaT gcc gag ( SEQ ID No: 621)
4	cct gat gcC gag tac tg ( SEQ ID No: 622)
5	c ggg gtt gGt gag agc ( SEQ ID No: 623)
6	caa gag gaA tcc gtg cg ( SEQ ID No: 624)
7	g gac acc taT tgc aga ca ( SEQ ID No: 625)
8	c tac ggg gCt gtg gag ( SEQ ID No: 626)
9	gg gcc gcC gtg gac ( SEQ ID No: 627)
10	cag aag gac Atc ctg gaa ( SEQ ID No: 628)
11	g gaa gac Gag cgg gc ( SEQ ID No: 629)
12	gaa gac gAg cgg gcc ( SEQ ID No: 630)
13	g gtg gac aaT tac tgc ag ( SEQ ID No: 631)
14	ggg gtt gTg gag agc t ( SEQ ID No: 632)
15	c gac gtg Agg gag tac ( SEQ ID No: 633)
16	gag cag gCg cgg gc ( SEQ ID No: 634)
17	ttc ttg tgg Gag ctt aag ( SEQ ID No: 635)
18	a gag gag tAc gtg cgc ( SEQ ID No: 636)
19	gag cag Gcg cgg gc ( SEQ ID No: 637)
20	gag cag aAg cgg gcc ( SEQ ID No: 638)
21	xc acc Aga c ( SEQ ID No: 639)
22	g gtg cgg tAc ctg gac ( SEQ ID No: 640)
23	g gtg gac aAc tac tgc a ( SEQ ID No: 641)
24	cgg ggc cGg gtg ga ( SEQ ID No: 642)
25	g ttc ctg gaG aga tac tt ( SEQ ID No: 643)
26	aga tac ttc Cat aac cag g ( SEQ ID No: 644)
27	g gag gag Aac gtg cgc ( SEQ ID No: 645)
28	g gag gag aAc gtg cgc ( SEQ ID No: 646)
29	cat aac caG gag gag tc ( SEQ ID No: 647)
30	ggg gag tTc cgg ggc ( SEQ ID No: 648)

Table 22-2

Probe No.	Base Sequence
31	agc ttc acG gtg cag c ( SEQ ID No: 6 4 9)
32	g tac ctg gaC aga tac tt ( SEQ ID No: 6 5 0)
33	g cct gat gAg gag tac t ( SEQ ID No: 6 5 1)
34	cct gat gaG gag tac tg ( SEQ ID No: 6 5 2)
35	c cat aac cGg gag gag ( SEQ ID No: 6 5 3)
36	cgg cct gCt gcc gag ( SEQ ID No: 6 5 4)
37	g cgg gcc Cag gtg ga ( SEQ ID No: 6 5 5)
38	cgg gcc cAg gtg gac ( SEQ ID No: 6 5 6)
39	cgg cct aGc gcc gag ( SEQ ID No: 6 5 7)
40	cgg cct agC gcc gag ( SEQ ID No: 6 5 8)
41	t gcc gag tCc tgg aac ( SEQ ID No: 6 5 9)
42	g gag ttc Tgg gcc gtg ( SEQ ID No: 6 6 0)
43	ag tac tct aCg tct gag t ( SEQ ID No: 6 6 1)
44	g ttc ctg gaC aga tac tt ( SEQ ID No: 6 6 2)
45	gcc gtg aGg gag ctg ( SEQ ID No: 6 6 3)
46	c gac gtg Cgg gag ttc ( SEQ ID No: 6 6 4)
47	ag aag gac Atc ctg gag ( SEQ ID No: 6 6 5)
48	g gag gag tTc gtg cgc ( SEQ ID No: 6 6 6)
49	aga tac ttc Gat aac cag g ( SEQ ID No: 6 6 7)
50	c cat aac caG gag gag ta ( SEQ ID No: 6 6 8)
51	g gag gag tAc gtg cgc ( SEQ ID No: 6 6 9)
52	gt ctg aag Ttc cct gga ( SEQ ID No: 6 7 0)
53	t cac caa gaA gag tac gt ( SEQ ID No: 6 7 1)
54	cag gtt aaa Cat gag tgt c ( SEQ ID No: 6 7 2)
55	cgg gcc gAg gtg gac ( SEQ ID No: 6 7 3)
56	cct gac gcT gag tac tg ( SEQ ID No: 6 7 4)
57	ag gtt aaa cAt gag tgt ca ( SEQ ID No: 6 7 5)
58	tac ttc tat Cac caa gag g ( SEQ ID No: 6 7 6)
59	tac gtg cgG ttc gac ag ( SEQ ID No: 6 7 7)
60	gag cag agA cgg gcc ( SEQ ID No: 6 7 8)

Table 22-3

Probe No.	Base Sequence
61	g cag gtt aaA cat gag tg ( SEQ ID No: 679)
62	cgg gcc cTg gtg gac ( SEQ ID No: 680)
63	cag aag gac Tlc ctg gaa ( SEQ ID No: 681)
64	ctg gaa gaC agg cgg g ( SEQ ID No: 682)
65	ct gat gcc Cag tac tgg ( SEQ ID No: 683)
66	t gtg gag agA ttc aca gt ( SEQ ID No: 684)
67	ctg gag cGg agg cgg ( SEQ ID No: 685)
68	g cgg gcc Ctg gtg ga ( SEQ ID No: 686)
69	gg cct gat Acc gag tac ( SEQ ID No: 687)
70	g gcg gtg aTg gag ctg ( SEQ ID No: 688)
71	g tac cgg gTg gtg acg ( SEQ ID No: 689)
72	cag agg cAg gcc gcg ( SEQ ID No: 690)
73	g tac gtg cAc ttc gac a ( SEQ ID No: 691)
74	cag gtt aaa Cct gag tgt ( SEQ ID No: 692)
75	ag gtt aaa cCt gag tgt c ( SEQ ID No: 693)
76	gtg ggg gaC tac cgg ( SEQ ID No: 694)
77	g cct gat gGc gag tac ( SEQ ID No: 695)
78	a gag gag Aac gtg cgc ( SEQ ID No: 696)
79	a gag gag aAc gtg cgc ( SEQ ID No: 697)
80	xacc cAa c ( SEQ ID No: 698)
81	gac acc gtG tgc aga c ( SEQ ID No: 699)
82	g cag ggt aaA tat aag tgt ( SEQ ID No: 700)
83	acg gag ctA ggg cgg ( SEQ ID No: 701)
84	c gcc gag tCc tgg aac ( SEQ ID No: 702)
85	c ctg gaa agT ctc ttc ta ( SEQ ID No: 703)
86	g aac agc cGg aag gac ( SEQ ID No: 704)
87	cct gct gcG gag tac t ( SEQ ID No: 705)
88	g cta ggg Tgg cct gtc ( SEQ ID No: 706)
89	ggt gag tgt Tat ttc ttc a ( SEQ ID No: 707)
90	tg gac aga taT ttc tat aac ( SEQ ID No: 708)

Table 22-4

Probe No.	Base Sequence
91	g tgt ctg aGg ctc cct ( SEQ ID No: 709)
92	gcg gtg acA gag ctg g ( SEQ ID No: 710)
93	c ggg gtt gTt gag agc ( SEQ ID No: 711)
94	cgg cct gTt gcc gag ( SEQ ID No: 712)
95	t gcg gag Cac tgg aac ( SEQ ID No: 713)
96	g tac tct aCg ggt gag t ( SEQ ID No: 714)
97	cgg cct gCt gcc gag ( SEQ ID No: 715)
98	g tac tct aGg ggt gag t ( SEQ ID No: 716)
99	a gag gag Gac gtg cgc ( SEQ ID No: 717)
100	cgg cct aTc gcc gag ( SEQ ID No: 718)
101	c tct acg tCt gag tgt c ( SEQ ID No: 719)
102	ag tac tct aTg ggt gag t ( SEQ ID No: 720)
103	ggg gct gTc gag agc ( SEQ ID No: 721)
104	gtg cgg taT ctg cac ag ( SEQ ID No: 722)
105	gg agg cgT gcc gcg ( SEQ ID No: 723)
106	gaa aga cgc Gtc cat aac ( SEQ ID No: 724)
107	gg agg cgC gcc gcg ( SEQ ID No: 725)
108	c ctg gaa Gac agg cgc ( SEQ ID No: 726)
109	ctg gaa gaC agg cgc g ( SEQ ID No: 727)
110	ac agg cgC gcc gcg ( SEQ ID No: 728)
111	ttc ttc aaC ggg acg ga ( SEQ ID No: 729)
112	ac tct acg Ggt gag tgt ( SEQ ID No: 730)
113	c cat aac caG gag gag aa ( SEQ ID No: 731)
114	c cat aac caG gag gag tt ( SEQ ID No: 732)
115	a gag gag tTc gtg cgc ( SEQ ID No: 733)
116	c tat aac caG gag gag tt ( SEQ ID No: 734)
117	g gag gac Ttg cgc ttc ( SEQ ID No: 735)
118	c ctg gaa Gac agg cgg ( SEQ ID No: 736)
119	t acg tct gaG tgt cat ttc ( SEQ ID No: 737)
120	ttc ctg gaA gac agg cg ( SEQ ID No: 738)

Table 22-5

Probe No.	Base Sequence
121	tc ttg gag cTg ctt aag t ( SEQ ID No: 739)
122	g cct gat gAg gag cac ( SEQ ID No: 740)
123	at gag gag Cac tgg aac ( SEQ ID No: 741)
124	cgg gcc gTg gtg gac ( SEQ ID No: 742)
125	t gat gag gaC tac tgg aa ( SEQ ID No: 743)
126	t gat gag gGg tac tgg a ( SEQ ID No: 744)
127	c atg gca gtT ctg aca gt ( SEQ ID No: 745)
128	gtg cgg ttA ctg gag ag ( SEQ ID No: 746)
129	g gag gag Ctc ctg cg ( SEQ ID No: 747)
130	c atc ctg gGa gac agg ( SEQ ID No: 748)
131	gtg cgg ttC ctg gag a ( SEQ ID No: 749)
132	gag cgg gcT gcg gtg ( SEQ ID No: 750)
133	gaa gac gAg cgc gcc ( SEQ ID No: 751)
134	ac gag cgC gcc gcg ( SEQ ID No: 752)
135	ctg gaa gaC aag cgg g ( SEQ ID No: 753)
136	g gaa gac aAg cgg gcc ( SEQ ID No: 754)
137	g gag tac tCl acg tct g ( SEQ ID No: 755)
138	gac aga tac Ttc tat aac c ( SEQ ID No: 756)
139	c ggg gtt gAt gag agc ( SEQ ID No: 757)
140	ac aac tac Cgg gtt gtg ( SEQ ID No: 758)
141	cgg cct gTc gcc gag ( SEQ ID No: 759)
142	g gag aac Ctg cgc ttc ( SEQ ID No: 760)
143	g gag ttc cTg gcg gtg ( SEQ ID No: 761)
144	cgg cct gtC gcc gag ( SEQ ID No: 762)
145	c cgg gcg Ttg acg ga ( SEQ ID No: 763)
146	ttg gag tac Tct acg tct ( SEQ ID No: 764)
147	ct gag tgt caA ttc ttc aat ( SEQ ID No: 765)
148	cct gat gcT gag tac tg ( SEQ ID No: 766)
149	gt ttc ttg gAg tac tct ac ( SEQ ID No: 767)
150	g cgg gtg cAg ttc ctg ( SEQ ID No: 768)



Table 22-6

Probe No.	Base Sequence
151	c gac gtg Cgg gag tac ( SEQ ID No: 769)
152	c cct acg tCt gag tgt c ( SEQ ID No: 770)
153	g gag gag tTc ctg cgc ( SEQ ID No: 771)
154	g gag ttc Ctg cgc ttc ( SEQ ID No: 772)
155	g gtg gac Gcc tat tgc ( SEQ ID No: 773)
156	g gct ttg Tct ggg gac ( SEQ ID No: 774)
157	c aac tac ggA gtt gtg ga ( SEQ ID No: 775)
158	gga gtt gtG gag agc tt ( SEQ ID No: 776)
159	cct aag agG gag tgt ca ( SEQ ID No: 777)
160	c ttc tat aaT cag gag gag ( SEQ ID No: 778)
161	ctg gac aga Cac ttc tat ( SEQ ID No: 779)
162	ag aag gac Ttc ctg gag ( SEQ ID No: 780)
163	cgg gcg gCg acg ga ( SEQ ID No: 781)
164	gc cag aag Aac atc ctg ( SEQ ID No: 782)
165	g gag ttc cAg gcg gtg ( SEQ ID No: 783)
166	caa gg gac ATc ctg gag c ( SEQ ID No: 784)
167	gac agg gCc gcc gc ( SEQ ID No: 785)
168	g cgg ttc cCg gac aga ( SEQ ID No: 786)
169	g gag ctg cGt aag tct g ( SEQ ID No: 787)
170	ctg gct tTc gct ggg g ( SEQ ID No: 788)
171	ttg gag ctg Tgt aag tct ( SEQ ID No: 789)
172	g gag ctg tGt aag tct g ( SEQ ID No: 790)
173	g tac ctg gaG aga tac tt ( SEQ ID No: 791)
174	cgg tac ctg Aac aga tac ( SEQ ID No: 792)
175	gag cag aAg cgg ggc ( SEQ ID No: 793)
176	g gag tac gCg cgc ttc ( SEQ ID No: 794)
177	ag ttc ctg Agc ttc gac ( SEQ ID No: 795)
178	cgt ttc ttg Gcg ctg ctt ( SEQ ID No: 796)
179	ctg gag aga Cac ttc cat ( SEQ ID No: 797)
180	t tac tgc agG cac aac ta ( SEQ ID No: 798)

Table 22-7

Probe No.	Base Sequence
181	cct gat gcG gag tac tg ( SEQ ID No: 799)
182	g gag gag Aac gcg cg ( SEQ ID No: 800)
183	g gag aac gCg cgc ttc ( SEQ ID No: 801)
184	cgt ttc ttg Cag ctg ctt ( SEQ ID No: 802)
185	g gtg cgg Ctc ctg ga ( SEQ ID No: 803)
186	c ggg gtt gCt gag agc ( SEQ ID No: 804)
187	aac tac ggC gtt gtg ga ( SEQ ID No: 805)
188	g aca ttg aCg gtg ctg a ( SEQ ID No: 806)
189	c gag gtg gGc acc tac ( SEQ ID No: 807)
190	gtg tgg aaC ctg atc ag ( SEQ ID No: 808)
191	g gac acc taT tgc aga ta ( SEQ ID No: 809)
192	aac agt gaT ctg ggg ga ( SEQ ID No: 810)
193	tac tgc aga Tac aac tac g ( SEQ ID No: 811)
194	tgt cat ttc Ctc aat ggg ( SEQ ID No: 812)
195	ga gtg tgg Aac ctg atc ( SEQ ID No: 813)
196	c atg gca aAg ctg aca g ( SEQ ID No: 814)
197	cgt ttc ttg Cag cag gat ( SEQ ID No: 815)
198	ctg cac aga Ggc atc tat ( SEQ ID No: 816)
199	gaa gac aCg cgc gcc ( SEQ ID No: 817)
200	ac acg cgC gcc gcg ( SEQ ID No: 818)
201	c ctg gaa Aac agg cgc ( SEQ ID No: 819)
202	a ggt tcc tAc atg gca g ( SEQ ID No: 820)
203	tgt ttc ttg Cag cag gat ( SEQ ID No: 821)

Table 23-1

Allele Number		Probe Number for Detection							
		2	3	4	5				
DRB1*010101	0								
DRB1*010102	6								
DRB1*010201	7	8							
DRB1*010202	9								
DRB1*0103	10	11	12						
DRB1*0104	13	14							
DRB1*0105	15								
DRB1*0106	16	14							
DRB1*0107	17								
DRB1*0108	18								
DRB1*0109	19	16							
DRB1*0110	20								
DRB1*030101	21	22	23	24	25	26	27	14	
DRB1*030102	26	28	14						
DRB1*030201	29	30	31	23	24	26	27		
DRB1*030202	30	23	24	26	28				
DRB1*0303	30	31	23	24	26	27	14		
DRB1*0304	21	22	32	25	26	27	14		
DRB1*030501	21	22	23	24	25	26	27		
DRB1*030502	27	33							
DRB1*0306	21	34	22	23	24	26	27	14	
DRB1*0307	22	23	24	25	26	27	14		
DRB1*0308	23	35	36	26	27	14			
DRB1*0309	37								
DRB1*0310	38	26	27	14					
DRB1*0311	21	39	40	41	14				
DRB1*0312	42	26	27	14					
DRB1*0313	43	26	27	14					
DRB1*0314	21	22	23	24	25	26			
DRB1*0315	21	22	23	24	25	26	14		

Table 23-2

Allele Number		Probe Number for Detection							
DRB1*0316	44								
DRB1*0317	45	46	18	47	48				
DRB1*0318	49	14							
DRB1*0319	10	26	27	14					
DRB1*0320	27	8							
DRB1*0321	50	25	26	27	14				
DRB1*0322	51								
DRB1*0323	37	14							
DRB1*0324	25	39	40	48	14				
DRB1*0325	21	22	32	52	25	26	27	14	
DRB1*040101	53	20							
DRB1*040102	54								
DRB1*0402	53	12	14						
DRB1*040301	55	56	57	14					
DRB1*040302	55	58	57	14					
DRB1*0404	53	14							
DRB1*040501	55	59	60	56	61				
DRB1*040502	62								
DRB1*040503	63								
DRB1*040504	60	42	33						
DRB1*0406	55	60	57	14					
DRB1*040701	55	56	57						
DRB1*040702	64								
DRB1*0408	65	55	59	60	56				
DRB1*0409	60	61	20						
DRB1*0410	60	56	61	14					
DRB1*0411	53	57	14						
DRB1*0412	60	61	10	66	14				
DRB1*0413	60	20	14						
DRB1*0414	60	10	11	12					

Table 23-3

Allele Number		Probe Number for Detection				
DRB1*0415	55	36	67	68	14	
DRB1*0416	69					
DRB1*0417	60	61	57			
DRB1*0418	60	10	66	14		
DRB1*0419	65	55	59	60		
DRB1*0420	60	57				
DRB1*0421	60	20				
DRB1*0422	60	56	26	27	14	
DRB1*0423	70					
DRB1*0424	61	42	71			
DRB1*0425	60	56	67	66	14	
DRB1*0426	72					
DRB1*0427	56	57	8			
DRB1*0428	60	56	25	61		
DRB1*0429	73					
DRB1*0430	74					
DRB1*0431	55	60	56	75	76	
DRB1*0432	77					
DRB1*0433	78					
DRB1*0434	55	79	56	20		
DRB1*0435	55	25	20			
DRB1*0436	55	67	68	14		
DRB1*0437	55	80	81	14		
DRB1*0438	55	10	82			
DRB1*0439	83					
DRB1*0440	84					
DRB1*0441	55	85	86	57	14	
DRB1*0442	55	25	14			
DRB1*0443	55	60	25			
DRB1*0444	60	56	13	14		

Table 23-4

Allele Number		Probe Number for Detection				
DRB1*070101	87	88	89			
DRB1*070102	90	91	92	89		
DRB1*0703	93					
DRB1*0704	91	48				
DRB1*0705	94					
DRB1*0706	91	95	89			
DRB1*0707	96					
DRB1*080101	97	42	67	66	33	
DRB1*080102	98					
DRB1*080201	99	33				
DRB1*080202	97	18	67	66		
DRB1*080203	100					
DRB1*080302	45	97	61	10	66	
DRB1*080401	97	18	67	66	14	
DRB1*080402	18	67	66	101		
DRB1*080403	66	101	102			
DRB1*080404	66	14	103			
DRB1*0805	97	61	67	68		
DRB1*0806	61	67	66	14		
DRB1*0807	104	67	66	33		
DRB1*0808	38	105	66			
DRB1*0809	45	50	67	66	33	
DRB1*0810	97	61	10	66	14	
DRB1*0811	38	66	33			
DRB1*0812	10	66	8			
DRB1*0813	97	18	66	33		
DRB1*0814	106					
DRB1*0815	107	10	66			
DRB1*0816	108	33				
DRB1*0817	25	61	67	66		

Table 23-5

Allele Number		Probe Number for Detection						
DRB1*0818	45	97	61	10	109			
DRB1*0819	110	10	66					
DRB1*0820	111	18	67	66	14			
DRB1*0821	112							
DRB1*0822	8	113	114					
DRB1*0823	15	66						
DRB1*0824	97	18	67	68				
DRB1*090102	92	115						
DRB1*0902	58	115						
DRB1*100101	116							
DRB1*100102	117	118						
DRB1*110101	99	36	67	68				
DRB1*110102	36	67	68	33				
DRB1*110103	36	67	119	68	120			
DRB1*110104	121	18	25	35	67	68		
DRB1*1102	35	10	11	12	14			
DRB1*1103	99	122	14					
DRB1*110401	99	67	68	14				
DRB1*110402	36	14	103					
DRB1*1105	123	35	36	67	68			
DRB1*110601	36	67	68	8				
DRB1*110602	36	67	68	7	8			
DRB1*1107	35	36	26	27	14			
DRB1*110801	18	25	35	124				
DRB1*110802	36	124	33					
DRB1*1109	32	23	24	25	35	67	68	
DRB1*1110	22	32	50	25	35	67	68	
DRB1*1111	25	35	67	125	122			
DRB1*111201	126	25	35	67	68			
DRB1*111202	111	127	128	25	35	67	68	

Table 23-6

Allele Number		Probe Number for Detection					
DRB1*1113	25	35	36	71	7	14	
DRB1*1114	35	10	11	12			
DRB1*1115	129	36	67	119	68		
DRB1*1116	23	35	10	11	12	14	
DRB1*1117	111	35	36	130	131	14	
DRB1*1118	18	35	10	109	14		
DRB1*1119	18	35	10	109			
DRB1*1120	23	35	10	11	12		
DRB1*1121	11	12	8				
DRB1*1122	55	25	36	67	68		
DRB1*1123	35	36	67	68	132	66	
DRB1*1124	108	36	67	119	68		
DRB1*1125	36	67	66	14			
DRB1*1126	133	134	18	25	35		
DRB1*112701	135	68	13				
DRB1*112702	35	68	136				
DRB1*1128	134	137	138	25	35	67	68
DRB1*1129	45	111	134	25	35	67	68
DRB1*1130	139	68					
DRB1*1131	35	140	10	109			
DRB1*1132	35	36	67	68	141		
DRB1*1133	142						
DRB1*1134	18	25	35	14			
DRB1*1135	142	14					
DRB1*1136	25	35	80	81	14		
DRB1*1137	45	111	134	18	35	67	68
DRB1*1138	143						
DRB1*1139	144	68					
DRB1*1140	23	25	35	67	125	122	14
DRB1*1141	35	67	125	122	14		



Table 23-7

Allele Number		Probe Number for Detection							
DRB1*1142	18	25	35	124	14				
DRB1*1143	144	68	14						
DRB1*120101	145	146	147	148	92	10	7	8	
DRB1*120102	145	146	147	148	92	10	8		
DRB1*120201	148	67	7	8					
DRB1*120202	148	67	120	8					
DRB1*120302	147	148	92	10	120				
DRB1*1204	148	36	10	7	8				
DRB1*1205	147	92	10	7	8				
DRB1*1206	147	148	92	10	7	8			
DRB1*1207	149								
DRB1*1208	150	148	92	10	7	8			
DRB1*130101	46	23	24	25	10	11	12	14	
DRB1*130102	151								
DRB1*130103	12	7	14						
DRB1*130201	46	23	24	25	10	11	12		
DRB1*130202	12	152							
DRB1*130301	42	109	153	33					
DRB1*130302	61	109	153						
DRB1*1304	25	61	11	12	14				
DRB1*1305	134	32	23	25	67	68			
DRB1*1306	46	23	25	10	109	14			
DRB1*130701	154	45	111	134	46	155	18	67	119
DRB1*130702	111	46	155	18	58	67	119	68	
DRB1*1308	46	50	11	12	14				
DRB1*1309	24	25	10	156	14				
DRB1*1310	46	23	25	10	109	153	14		
DRB1*1311	18	25	67	68	14				
DRB1*1312	111	61	10	109					

Table 23-8

Allele Number		Probe Number for Detection							
DRB1*1313	111	61	10	66					
DRB1*131401	18	25	67	119	68				
DRB1*131402	25	58	67	119	68				
DRB1*1315	30	25	11	12	14				
DRB1*1316	157								
DRB1*1317	97	12	14						
DRB1*1318	23	25	67	66	14				
DRB1*1319	30	50	11	12	14				
DRB1*1320	46	23	24	25	80	81	14		
DRB1*1321	111	25	61	67	68				
DRB1*1322	111	46	18	25	10	11	12	14	
DRB1*1323	11	12	33						
DRB1*1324	25	67	125	122	14				
DRB1*1325	154	45	111	134	46	18	25	124	
DRB1*1326	31	158	23	24	58	67	119	68	120
DRB1*1327	21	11	12	14					
DRB1*1328	159								
DRB1*1329	46	23	24	25	80	81			
DRB1*1330	25	61	10	109					
DRB1*1331	104	10	11	12					
DRB1*1332	23	61	11	12	14				
DRB1*1333	61	109	136						
DRB1*1334	160	11	12						
DRB1*1335	161								
DRB1*1336	46	23	24	10	11	12			
DRB1*1337	109	153	33						
DRB1*1338	61	11	12						
DRB1*1339	43	10	11	12					
DRB1*1340	46	23	24	10	11	12	14		

Table 23-9

Allele Number	Probe Number for Detection							
DRB1*1341	21	11	12					
DRB1*1342	23	67	68	14				
DRB1*1343	25	38	80	81	14			
DRB1*1344	111	134	46	18	25	14		
DRB1*1345	25	38	10	11	12			
DRB1*1346	18	104	162	67	135	68		
DRB1*1347	111	18	67	66	33			
DRB1*1348	61	11	12	14				
DRB1*1349	111	61	67	68				
DRB1*1350	134	137	25	67	68			
DRB1*1351	163							
DRB1*1352	46	32	52	25	10	11	12	14
DRB1*1353	30	24	11	12	14			
DRB1*1354	92	125	122	14				
DRB1*1355	111	42	67	66	33			
DRB1*140101	99	111	130	131	14			
DRB1*140102	164	111	38	130	14			
DRB1*1402	99	158	23	24				
DRB1*1403	99	23	66					
DRB1*1404	99	97	130	131	14			
DRB1*140501	165	166	131	14				
DRB1*140502	165	131	14					
DRB1*1406	45	30	23	24	14			
DRB1*140701	164	111	38	130	131			
DRB1*140702	38	131	33					
DRB1*1408	164	111	107	130	131	14		
DRB1*1409	167	134	46	22	32	23		
DRB1*1410	59	38	130	131	14			
DRB1*1411	97	35	36	130	131	14		
DRB1*1412	30	23	24	66	14			

Table 23-10

Allele Number		Probe Number for Detection						
DRB1*1413	30	23	24	61				
DRB1*1414	111	50	130	131				
DRB1*1415	97	50	67	66	14			
DRB1*1416	38	10	11	12	14			
DRB1*1417	134	46	22	23	25	14		
DRB1*1418	23	24	166	130	131	14		
DRB1*1419	29	45	30	23	24	20		
DRB1*1420	133	150	30	50	14			
DRB1*1421	46	22	23	25	20	14		
DRB1*1422	50	38	105	67	135	68		
DRB1*1423	164	111	50	130	131	14		
DRB1*1424	30	158	23	24	10	168	156	
DRB1*1425	111	18	38	105	67	135	68	
DRB1*1426	169	14						
DRB1*1427	30	23	24	67	68	132	66	
DRB1*1428	38	8	113					
DRB1*1429	30	158	23	24	8			
DRB1*1430	134	46	22	32	23	25		
DRB1*1431	97	38	7	14				
DRB1*1432	164	111	38	71	14			
DRB1*1433	24	25	57	14				
DRB1*1434	164	111	107	7	14			
DRB1*1435	25	38	130	131	14			
DRB1*1436	49	131						
DRB1*1437	165	156	14					
DRB1*1438	38	170	14					
DRB1*1439	171	38	130	131	14			
DRB1*1440	30	50	124	132	66			
DRB1*1441	45	111	150	30	50	172		
DRB1*1442	18	25	130	131				

Table 23-11

Allele Number		Probe Number for Detection						
DRB1*1443	173							
DRB1*1444	165	166	131					
DRB1*1445	165	10	131	14				
DRB1*150101	174							
DRB1*150102	175	176						
DRB1*150103	177	7	14					
DRB1*150104	177	25	10	156	14			
DRB1*150201	177	25	58	10	156			
DRB1*150202	25	10	168	156				
DRB1*150203	178							
DRB1*1503	177	179	25	58	10	156	14	
DRB1*1504	177	67	180	14				
DRB1*1505	177	25	58	16	14			
DRB1*1506	181							
DRB1*1507	177	58	10	156	14			
DRB1*1508	182							
DRB1*1509	183	156						
DRB1*1510	177	12	14					
DRB1*1511	177	58	10	156				
DRB1*1512	177	61	42	10	156	14		
DRB1*1513	177	25	58	184	156	14		
DRB1*160101	177	67	120					
DRB1*160102	177	67	68					
DRB1*160201	177	120						
DRB1*160202	177	124						
DRB1*1603	185							
DRB1*1604	127	58	67	68	132	66		
DRB1*1605	177	10	120					
DRB1*1607	186							
DRB1*1608	177	187	67	120				

Table 23-12

Allele Number		Probe Number for Detection					
DRB3*010101	188	34	172	162	26	28	
DRB3*01010201	189	26					
DRB3*010103	188	34	172	26	28		
DRB3*010104	28	175					
DRB3*0102	190	191	34	172	162	26	28
DRB3*0103	188	192	172	162	26	28	
DRB3*0104	193	34	172	162	26	28	
DRB3*0105	194	28					
DRB3*0106	188	34	50	162	26	28	
DRB3*0107	188	20	40	48			
DRB3*0108	188	23	24	162	26	28	
DRB3*0109	188	195	162	26	28		
DRB3*0110	196						
DRB3*0201	189	14					
DRB3*020201	197	198	195	47	48		
DRB3*020202	198	195	47	40	41		
DRB3*020203	199						
DRB3*020204	47	200	48				
DRB3*0203	198	201	47	48			
DRB3*0204	47	26	27	14			
DRB3*0205	30	195	47	48			
DRB3*0206	23	202	47	48			
DRB3*0207	47	104	162	48			
DRB3*0208	47	61	42	48			
DRB3*0209	195	92	40	48			
DRB3*0210	197	198	195	40	48		
DRB3*0211	47	10	48				
DRB3*0212	198	195	47	48			
DRB3*0213	203						
DRB3*0214	204						

Table 23-13

Allele Number		Probe Number for Detection					
DRB3*0215	198	195	47	40			
DRB3*0216	47	105	48				
DRB3*0217	47	67	48				
DRB3*030101	92	48	14				
DRB3*030102	205						
DRB3*0302	198	92	48	14			
DRB3*0303	30	50	162	92	26	28	
DRB4*010101	206						
DRB4*0102	207						
DRB4*010302	208	209	210				
DRB4*010303	206	131					
DRB4*010304	211						
DRB4*0104	212	213					
DRB4*0105	208	214					
DRB4*0106	208	209	210				
DRB4*0201N	87	14					
DRB5*010101	215						
DRB5*010102	129	58	67	119	68		
DRB5*0102	2	216	217	67	119	120	
DRB5*0103	218	219	220				
DRB5*0104	129	66					
DRB5*0105	108	67	119	120			
DRB5*0106	129	113					
DRB5*0107	129	10	221	120			
DRB5*0109	222						
DRB5*0110N	218	217	67	119	120		
DRB5*0111	129	156					
DRB5*0112	129	223	224	225			
DRB5*0202	226	113					
DRB5*0203	218	217	10	168	156		
DRB5*0204	218	67	180	113			
DRB5*0205	218	217	113				

Table 24-1

Allele Number	Probe Number for Detection						
	0	1	2	3	4	5	
DRB1*010101	0	1	2	3	4	5	
DRB1*010102	6						
DRB1*010201	7	8					
DRB1*010202	9						
DRB1*0103	10	11	12				
DRB1*0104	13	14					
DRB1*0105	15						
DRB1*0106	16	14					
DRB1*0107	17						
DRB1*0108	18						
DRB1*0109	19	16					
DRB1*0110	20						
DRB1*030101	21	22	23	14			
DRB1*030102	24	13	14				
DRB1*030201	21	25	23				
DRB1*030202	21	13					
DRB1*0303	25	26	27	28	24	23	14
DRB1*0304	22	26	29	30	24	23	14
DRB1*030501	22	26	27	28	30	24	23
DRB1*030502	23	31					
DRB1*0306	22	32	26	27	28	24	23
DRB1*0307	21	23	14				
DRB1*0308	21	33	34	23	14		
DRB1*0309	35						
DRB1*0310	36	24	23	14			
DRB1*0311	22	37	38	23	14		
DRB1*0312	39	40	24	23			
DRB1*0313	41	24	23	14			
DRB1*0314	22	26	27	28	30	24	



Table 24-2

Allele Number	Probe Number for Detection							
DRB1*0315	22	26	27	28	30	24	14	
DRB1*0316	42							
DRB1*0317	43	44	18	45	13			
DRB1*0318	46	14						
DRB1*0319	47	24	23	14				
DRB1*0320	23	8						
DRB1*0321	48	30	24	23	14			
DRB1*0322	49							
DRB1*0323	35	14						
DRB1*0324	30	37	38	13	14			
DRB1*0325	22	26	50	51	30	24	23	14
DRB1*040101	52	20						
DRB1*040102	53							
DRB1*0402	52	12	14					
DRB1*040301	54	18	55	14				
DRB1*040302	54	56	55	14				
DRB1*0404	52	14						
DRB1*040501	54	57	58	18	39			
DRB1*040502	59							
DRB1*040503	54	57	58	18	39			
DRB1*040504	58	40	31					
DRB1*0406	54	58	55	14				
DRB1*040701	54	18	55					
DRB1*040702	60							
DRB1*0408	61	54	57	58	18			
DRB1*0409	58	39	20					
DRB1*0410	58	18	39	14				
DRB1*0411	52	55	14					
DRB1*0412	58	39	10	62	14			
DRB1*0413	58	20	14					

Table 24-3

Allele Number	Probe Number for Detection					
DRB1*0414	58	10	11	12		
DRB1*0415	54	58	34	63	64	
DRB1*0416	65					
DRB1*0417	58	39	55			
DRB1*0418	58	10	62	14		
DRB1*0419	61	54	57	58		
DRB1*0420	58	55				
DRB1*0421	61	54	57	20		
DRB1*0422	58	18	24	23	14	
DRB1*0423	66					
DRB1*0424	39	40	67			
DRB1*0425	58	18	63	64	68	62
DRB1*0426	69					
DRB1*0427	18	55	8			
DRB1*0428	58	18	30	39		
DRB1*0429	70					
DRB1*0430	71					
DRB1*0431	54	58	18	68	62	
DRB1*0432	72					
DRB1*0433	73					
DRB1*0434	74	75	18	20		
DRB1*0435	54	30	20			
DRB1*0436	54	63	64	14		
DRB1*0437	54	11	12	14		
DRB1*0438	54	47	20			
DRB1*0439	76					
DRB1*0440	77					
DRB1*0441	54	78	79	55	14	
DRB1*0442	54	30	14			
DRB1*0443	54	58	30			

Table 24-4

Allele Number	Probe Number for Detection				
DRB1*0444	58	18	13	14	
DRB1*070101	80	37	81		
DRB1*070102	82	83	84	81	
DRB1*0703	85				
DRB1*0704	83	13			
DRB1*0705	86				
DRB1*0706	83	87	81		
DRB1*0707	88				
DRB1*080101	89	40	63	62	31
DRB1*080102	90				
DRB1*080201	91	31			
DRB1*080202	89	18	63	62	
DRB1*080203	92				
DRB1*080302	21	10	62		
DRB1*080401	21	62	14		
DRB1*080402	18	63	62	93	
DRB1*080403	62	93	31		
DRB1*080404	62	14	31		
DRB1*0805	89	39	63	64	
DRB1*0806	39	63	62	14	
DRB1*0807	94	63	62	31	
DRB1*0808	36	95	62		
DRB1*0809	96	48	63	62	31
DRB1*0810	89	39	10	62	14
DRB1*0811	97	62			
DRB1*0812	10	62	8		
DRB1*0813	96	89	18	62	
DRB1*0814	98				
DRB1*0815	95	10	62		
DRB1*0816	99	31			

Table 24-5

Allele Number		Probe Number for Detection						
DRB1*0817	30	39	63	62				
DRB1*0818	96	89	39	10	64			
DRB1*0819	100	10	62					
DRB1*0820	101	18	63	62	14			
DRB1*0821	102							
DRB1*0822	8	103	31					
DRB1*0823	15	62						
DRB1*0824	89	18	63	64				
DRB1*090102	104	84						
DRB1*0902	104	56						
DRB1*100101	105							
DRB1*100102	106	107						
DRB1*110101	91	34	63	64				
DRB1*110102	34	63	64	31				
DRB1*110103	34	63	108	109	110			
DRB1*110104	111	18	30	33	63	64		
DRB1*1102	21	34	10	11	12	14		
DRB1*1103	91	12	14					
DRB1*110401	91	63	64	14				
DRB1*110402	34	14	31					
DRB1*1105	112	33	34	63	64			
DRB1*110601	34	63	64	8				
DRB1*110602	34	63	64	7	8			
DRB1*1107	33	34	24	23	14			
DRB1*110801	18	30	33	64				
DRB1*110802	18	30	33	64				
DRB1*1109	113	27	28	30	33	63	64	
DRB1*1110	26	114	48	30	33	63	64	
DRB1*1111	30	33	63	11	12			
DRB1*111201	115	30	33	63	64			

Table 24-6

Allele Number	Probe Number for Detection						
DRB1*111202	101	116	48	30	33	63	64
DRB1*11113	21	30	33	67	7	14	
DRB1*11114	21	34	10	11	12		
DRB1*11115	117	34	63	118	64		
DRB1*11116	27	33	10	11	12	14	
DRB1*11117	21	33	55	7	14		
DRB1*11118	18	33	10	64	14		
DRB1*11119	18	33	10	64			
DRB1*11120	27	33	10	11	12		
DRB1*11121	33	10	11	12			
DRB1*11122	54	30	34	63	64		
DRB1*11123	33	34	63	64	68	62	
DRB1*11124	99	34	63	118	64		
DRB1*11125	34	63	52	14			
DRB1*11126	43	101	119	18	30	33	
DRB1*1112701	120	64	13				
DRB1*1112702	33	64	23				
DRB1*11128	119	78	79	30	33	63	64
DRB1*11129	43	101	119	30	33	63	64
DRB1*11130	121	64					
DRB1*11131	122	123	10	64			
DRB1*11132	33	34	63	64	124		
DRB1*11133	125						
DRB1*11134	18	30	33	14			
DRB1*11135	125	14					
DRB1*11136	30	33	11	12	14		
DRB1*11137	43	101	119	18	33	63	64
DRB1*11138	126						
DRB1*11139	45	64					
DRB1*11140	27	30	33	63	11	12	

Table 24-7

Allele Number		Probe Number for Detection							
DRB1*1141	33	63	11	12	14				
DRB1*1142	18	30	33	64	14				
DRB1*1143	45	64	14						
DRB1*120101	127	21	128	129	84	10	7	8	
DRB1*120102	127	21	128	129	84	10	8		
DRB1*120201	129	63	7	8					
DRB1*120202	129	63	110						
DRB1*120302	128	129	84	10	110				
DRB1*1204	129	34	10	7					
DRB1*1205	128	84	10	7	8				
DRB1*1206	21	128	129	84	10	7	8		
DRB1*1207	130								
DRB1*1208	131	129	84	10	7	8			
DRB1*130101	21	27	30	10	11	12	14		
DRB1*130102	132								
DRB1*130103	12	7	14						
DRB1*130201	21	27	30	10	11	12			
DRB1*130202	133	134							
DRB1*130301	40	135	136	31					
DRB1*130302	39	135	136						
DRB1*1304	21	40	10	11	12	14			
DRB1*1305	119	113	27	30	63	64			
DRB1*1306	44	27	30	10	64	14			
DRB1*130701	137	43	101	119	44	138	18	63	118
DRB1*130702	101	44	138	18	56	63	118	64	
DRB1*1308	44	48	11	12	14				
DRB1*1309	28	30	47	16	14				
DRB1*1310	44	27	30	10	135	136	14		
DRB1*1311	18	30	63	64	14				

Table 24-8

Allele Number		Probe Number for Detection							
DRB1*1312	101	39	10	64					
DRB1*1313	101	39	10	62					
DRB1*131401	18	30	63	118	64				
DRB1*131402	30	56	63	118	64				
DRB1*1315	25	30	11	12	14				
DRB1*1316	139								
DRB1*1317	21	89	30	10	11	12	14		
DRB1*1318	27	30	63	62	14				
DRB1*1319	21	48	10	11	12	14			
DRB1*1320	44	27	28	30	11	12	14		
DRB1*1321	21	40	63	64					
DRB1*1322	101	44	18	30	10	11	12	14	
DRB1*1323	11	12	31						
DRB1*1324	30	63	11	12	14				
DRB1*1325	137	43	101	119	44	18	30	64	
DRB1*1326	26	113	27	28	56	63	108	109	110
DRB1*1327	22	11	12	14					
DRB1*1328	140								
DRB1*1329	44	27	28	30	11	12			
DRB1*1330	30	39	10	64					
DRB1*1331	141	10	11	12					
DRB1*1332	27	39	11	12	14				
DRB1*1333	39	135	23						
DRB1*1334	142	11	12						
DRB1*1335	143								
DRB1*1336	44	27	28	10	11	12			
DRB1*1337	135	136	31						
DRB1*1338	39	11	12						
DRB1*1339	41	10	11	12					

Table 24-9

Allele Number	Probe Number for Detection						
DRB1*1340	44	27	28	10	11	12	14
DRB1*1341	22	11	12				
DRB1*1342	27	63	64	14			
DRB1*1343	30	36	11	12	14		
DRB1*1344	101	119	44	18	30	14	
DRB1*1345	30	36	10	11	12		
DRB1*1346	18	141	144	63	120	64	
DRB1*1347	101	18	63	62	31		
DRB1*1348	39	11	12	14			
DRB1*1349	101	39	63	64			
DRB1*1350	119	78	30	63	64		
DRB1*1351	145						
DRB1*1352	44	50	51	30	10	11	12 14
DRB1*1353	25	28	11	12	14		
DRB1*1354	84	11	12	14			
DRB1*1355	101	40	63	62	31		
DRB1*140101	91	101	55	7	14		
DRB1*140102	146	101	36	67	55		
DRB1*1402	91	27	28				
DRB1*1403	91	27	62				
DRB1*1404	91	89	55	7	14		
DRB1*140501	147	148	7	14			
DRB1*140502	147	7	14				
DRB1*1406	149	43	25	27	28	14	
DRB1*140701	146	101	36	55	7		
DRB1*140702	36	7	31				
DRB1*1408	146	101	95	55	7	14	
DRB1*1409	43	119	44	26	113	27	
DRB1*1410	57	36	55	7	14		
DRB1*1411	89	33	34	55	7		
DRB1*1412	25	27	28	64	68	62	



Table 24-10

Allele Number	Probe Number for Detection						
DRB1*1413	25	27	28	39			
DRB1*1414	146	101	48	55	7		
DRB1*1415	89	48	63	62	14		
DRB1*1416	48	36	10	11	12		
DRB1*1417	119	44	26	27	30	14	
DRB1*1418	27	28	148	55	7	14	
DRB1*1419	21	25	27	28	20		
DRB1*1420	43	101	131	25	48		
DRB1*1421	44	26	27	30	20		
DRB1*1422	48	36	95	63	120	64	
DRB1*1423	146	101	48	55	7	14	
DRB1*1424	25	113	27	28	47	19	16
DRB1*1425	101	18	36	95	63	120	64
DRB1*1426	150	14					
DRB1*1427	25	27	28	63	64	68	62
DRB1*1428	36	8	103				
DRB1*1429	25	113	27	28	8		
DRB1*1430	119	44	26	113	27	30	
DRB1*1431	89	36	7	14			
DRB1*1432	146	101	36	67	14		
DRB1*1433	28	30	55	14			
DRB1*1434	146	101	95	7	14		
DRB1*1435	30	36	55	7	14		
DRB1*1436	151	7					
DRB1*1437	147	16	14				
DRB1*1438	36	13	14				
DRB1*1439	152	36	55	7	14		
DRB1*1440	25	48	64	68	62		
DRB1*1441	43	101	131	25	153	154	
DRB1*1442	18	30	55	7			
DRB1*1443	155						

Table 24-11

Allele Number	Probe Number for Detection						
DRB1*1444	147	148	7				
DRB1*1445	147	47	7	14			
DRB1*150101	156						
DRB1*150102	157	158					
DRB1*150103	159	7	14				
DRB1*150104	159	30	47	16	14		
DRB1*150201	159	30	56	47	16		
DRB1*150202	30	47	19	16			
DRB1*150203	160						
DRB1*1503	159	161	30	56	47	16	14
DRB1*1504	159	162	16	14			
DRB1*1505	159	30	56	16	14		
DRB1*1506	163						
DRB1*1507	159	56	47	16			
DRB1*1508	164						
DRB1*1509	165	16					
DRB1*1510	159	12					
DRB1*1511	159	56	47	16			
DRB1*1512	159	39	40	47	16	14	
DRB1*1513	159	30	56	166	16	14	
DRB1*160101	159	63	110				
DRB1*160102	159	63	64				
DRB1*160201	159	110					
DRB1*160202	159	64					
DRB1*1603	167						
DRB1*1604	159	62					
DRB1*1605	159	10	110				
DRB1*1607	168						
DRB1*1608	159	28	63	110			
DRB3*010101	169	32	154	144	24	13	
DRB3*01010201	170	24					

Table 24-12

Allele Number	Probe Number for Detection					
DRB3*010103	169	32	154	24	13	
DRB3*010104	169	32	154	144	24	13
DRB3*0102	171	172	32	154	144	24 13
DRB3*0103	169	173	154	144	24	13
DRB3*0104	169	32	154	144	24	13
DRB3*0105	174	13				
DRB3*0106	169	32	48	144	24	13
DRB3*0107	169	175	38	13		
DRB3*0108	169	27	28	144	24	13
DRB3*0109	169	176	144	24	13	
DRB3*0110	177					
DRB3*0201	170	14				
DRB3*020201	178	179	176	45	13	
DRB3*020202	178	179	176	45	38	23
DRB3*020203	180					
DRB3*020204	45	181	13			
DRB3*0203	179	29	45	13		
DRB3*0204	45	24	23	14		
DRB3*0205	178	25	176	45	13	
DRB3*0206	182	183	45	13		
DRB3*0207	45	141	144	13		
DRB3*0208	45	39	40	13		
DRB3*0209	176	84	38	13		
DRB3*0210	178	179	176	38	13	
DRB3*0211	45	47	13			
DRB3*0212	184	13				
DRB3*0213	185					
DRB3*0214	186					
DRB3*0215	178	179	176	45	38	
DRB3*0216	45	95	13			
DRB3*0217	45	162	13			

Table 24-13

Allele Number	Probe Number for Detection					
DRB3*030101	84	13	14			
DRB3*030102	187					
DRB3*0302	179	48	84	175	38	13
DRB3*0303	25	48	144	84	24	13
DRB4*010101	188					
DRB4*0102	189					
DRB4*010302	80	190	14			
DRB4*010303	188	191				
DRB4*010304	192					
DRB4*0104	23	193				
DRB4*0105	194	195				
DRB4*0106	194	190	193			
DRB4*0201N	80	14				
DRB5*010101	196					
DRB5*010102	117	56	63	118	64	
DRB5*0102	197	78	63	108	110	
DRB5*0103	198	199	200			
DRB5*0104	117	62				
DRB5*0105	99	63	108	110		
DRB5*0106	117	103				
DRB5*0107	117	10	108	110		
DRB5*0109	201					
DRB5*0110N	197	78	63	108	110	
DRB5*0111	117	16				
DRB5*0112	117	84	67	81		
DRB5*0202	202	103				
DRB5*0203	198	78	47	19	16	
DRB5*0204	203	162	16	103		
DRB5*0205	203	78	103			

(Example 13)

Probes for identification of HLA-MICA allele

Extraction of DNA from 1 ml of human blood was performed using GFX Genomic Blood DNA Purification  
5 Kit from Amersham Biosciences in the same manner as in Example 1.

Next, quantitative PCR was carried out in the same manner as in Example 1 except that probes in Tables 25-1 and 25-2 were used and 2  $\mu$ l of the mixed  
10 primers consisting of 1  $\mu$ l each of respective solutions of the following primers (10 pmol/ $\mu$ l) and 6  $\mu$ l of ultra pure water:

AGTGGAGCCAGTGGACCCAAGA (SEQ ID NO: 104)

TGATGTTTTCTTCTTACAACAAC (SEQ ID NO: 105)

15 After PCR amplification, referring to Amp Plot and Dissociation curves on a display of 5700 software, and to the allele-probe list 1 (Tables 27-1 and 27-2), it was identified as MICA\*00201.

(Example 14)

20 Extraction of DNA from 1 ml of human blood was performed in the same way as in Example 3. PCR of human HLA-MICA was then performed in the same manner as in Example 2 except that 3  $\mu$ l of the mixed primer consisting of 1  $\mu$ l each of the solutions containing  
25 the following sequences at 10 pmol/ $\mu$ l respectively, and 12  $\mu$ l of ultra pure water were used:

GTCTTCGTTATAACCTCACGGT (SEQ ID NO:106)

GCTCGTGAGCCTGCAGGTCCTG (SEQ ID NO:107)

AGTGGAGCCAGTGGACCCAAGA (SEQ ID NO:108)

At the same time, a DNA microarray was prepared  
5 to identify the allele in the specimen described  
above in the same manner as in Example 2, except that  
probes in the probe list of Table 26-1 were used to  
form the probe spots respectively.

Then, hybridization was performed using the  
10 above specimen and the prepared DNA microarray in the  
same manner as in Example 2. The DNA microarray was  
air-dried and the fluorometry measurement was  
conducted with GenePix4000B (Axon). Referring to the  
allele-probe correspondence list 2 (Tables 28-1 and  
15 28-2), it was identified as MICA\*00201..

#### Allele list

MICA\*001

gctctcggttataaacctcacggctgctgctcctgggatggatcgtgagtcagggttctcactgaggtacatctgga  
20 tggtcagcccttctcgctgtgacaggcagaaatgcagggcaaagccccaggacagtgggcagaagatgctctg  
ggaaataagatcaggacagagagaccagAgacttgacagggaaacggaaaggaccctcaggatgacccctggctcata  
tcaaggaccagaaagaaggcttgcattccctccaggagattagggctgtgagatccatgaagacaacagcaccag  
gagctcccagcatcttactacgatggggagctcttctctcccaaaacctggagactAaggaalggacaatgccc  
cagctctccagagctcagaccttggccaatgaacgtcaggaattcttgaaggaagatgccaatgaagaccaagacac  
25 actatcacgctatgcatgcagactgcttcaggaactacggcgatcttaAaatccGgcgtagctctgaggagaac  
agtgcccccatggatgaatgtcaccgcagcgaggccctcagagggcaacattaccgtgacatgcagggcttctggc  
ttctatccctggaatatcacactgaGcttggcgtcaggatggggtacttcttggaccacgacaccagcagtgggggg

[illegible]

25 gtcctcggtataaacctcacggtgctgtccGgggatggatctgtgcagtcagggtttcctgcctgaggtacatctggga  
tggctagcccttccctgcgcctgtacaggcagaaaagcagggcaagccccaggacagtgggcagaagatgtccctg  
ggaaaataagacatgggacagagagaccagggacltgacagggaacggaaaggacctcaggatgacctgggctcata  
tcaaggaccagaaagaaggcttgcatctccctccaggagatagggtctgtgagatccatgaagacaacagcaccag

[illegible]

25 gtcttcgttataacctcacggctcgtcctcgggatggatctgtgcagtcagggttcttcgtcaggtacatctgga  
tggtcagcccttcttcgctatgacaggcagaaaigcagggcaaagccccagggacagtgggcagaagaigtcttg  
ggaaaatagacatgggacagagagaccagggaacttgacagggaacggaaaggacctcaggaigaccttggctcata



1caaggaccagaaagaaggc1tgcattccctccaggagattagggctctgtgagatcca1gaagacaacagcaccag  
gagctcccagcat1tctactacgaltggggagctcttccctcccaaaacc1ggagactgaggaatggacaG1gccc  
cag1ctccagagctcagacct1ggcca1gaacg1caggaat1tct1gaaggaaga1gccatgaagaccaagacac  
actatcacgcta1gcat1gcagactgcc1gcaggaactacggcgata1ctaaaa1ccggcg1ag1ctc1gaggagaac  
5 ag1gccccca1gg1gaat1gtcaccgcagcgaggcc1cagagggcaacat1accg1gacat1gcagggct1ccagc  
t1ctatccccggaata1cacactgaCct1ggcg1cagga1gggg1atct11gagccacgacaccagcag1gggggg  
at1ctc1gcc1gat1gggaat1ggaacct1accagacct1ggg1ggccaccaggat11gccGaggagaggagcagaggt1  
cacct1gct1acat1ggaacacagcgggaat1cacagcact1accc1gt1gccc1ct1 (SEQ ID NO:113)

MICA\*006

10 g1ct1cg1t1ataacct1cacgg1gct1g1cct1ggga1ggat1ct1gtcag1caggg11tct1gct1gaggt1acat1ct1gga  
tgg1cagccct1cct1gcgcta1gacaggcagaaa1gcagggc1aaagccccaggagacag1gggcagaaga1gt1cct1g  
ggaaa1aagacat1gggacagagagaccaggga1t1gacagggaa1cggaaaggacct1cagga1gacct1ggct1cata  
1caaggaccagaaagaaggc1tgcattccctccaggagattagggctctgtgagatcca1gaagacaacagcaccag  
gagctcccagcat1tctactacgaltggggagctcttccctcccaaaacc1ggagactgaggaatggacagt1ccc  
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act (SEQ ID NO:114)

25 MICA\*00701

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MICA#00702

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MICA#00801

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[illegible]

**MICA\*00802**

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25 catggcagacatccatgttctgtctgtgtgtctggctgtctgtatatttatttatttctatgtccgt  
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**MICA#00803**



MICA\*00902

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act (SEQ ID NO:121)

MICA\*010

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20 ggaaaataagacatgggacagagagaccagggaatlgacagggaacggaaaggacctcaggatgacctggctcata  
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5 (SEQ ID NO:122)

MICA\*011

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MICA\*01201

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10 Q ID NO:124)

MI CA\*01202

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MICA\*013

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MICA\*014

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20 MICA\*015

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[illegible]

MICA#016

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(SEQ ID NO:129)

MICA#017

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[illegible]



## MICA\*021

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## MICA\*022

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## 25 MICA\*023

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gagclccagcat11ctactacga1ggggagclcl1cc1clcccaaaacc1ggagac1gaggaalggacaalggcc  
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5 actatcacgclatgcalgcagac1gcc1gcaggaac1acggcgat1cl1aaa1ccggcg1ag1cc1gaggagaac  
ag1gccccca1gg1gaatg1cacccgcagcaggcc1cagagggcaacat1acc1gacatgcagggcl1clggc  
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cacc1gcl1acat1ggaacacagcgggaat1cacagcact1cacc11g1gccc1cl1gggaag1gcl1gg1gcl1cagag1  
10 cat1ggcagacat1cca1gt11cl1gcl1g1gcl1gcl1Ggcl1gcl1gcl1at1111g11at1at1at111cl1at1g1ccgt  
1g11g1aa (SEQ ID NO:136)

MICA#024

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15 ggaaa1aagacatgggacagagagaccagggacllgacaggaacggaaaggacc1caggatgaccc1ggclcata  
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gagclccagcat11clactacga1ggggagclcl1cc1clcccaaaacc1ggagac1gaggaalggaca1g1ccc  
cagclcc1ccagagclcagacc11ggccatgaacg1caggaal11cl1gaaggaagatgcatgaagaccaagacac  
ac1atcacgclatgcalgcagac1gcc1gcaggaac1acggcgat1cl1agaalccggcg1ag1cc1gaggagaac  
20 ag1gccccca1gg1gaatg1cacccgcagcaggcc1cagagggcaacat1cacc1gacatgcagggcl1ccagc  
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atg1cc1gcl1ga1gggaal1ggaac1accagacc1ggg1ggccaccaggall1gccaaggagaggagcagaggt1  
cacc1gcl1acat1ggaacacagcgggaat1cacagcact1cacc11g1gccc1cl1g (SEQ ID NO:137)

MICA#025

25 gcl11cc11ataaccl1cacgg1gcl1gcl1ggga1ggat1cl1g1cag1caggg11cl1Tgcl1gag11acat1cl1gga  
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ggaaa1aagacatgggacagagagaccagggacllgacaggaacggaaaggacc1caggatgaccc1ggclcata

tcaaggaccagaaagaaggccttgcattccctccaggagattagggctctgtgagatccatgaagacaacagcaccag  
gagctcccagcatttctactacgattggggagctcttccctcccaaaacctgggagactGaggaatggacaaatgcc  
cagctctccagagctcagaccttggccaatgaacgtcaggaattcttgaaggaagatgccatgaagaccaagacac  
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5 agtgcacccccatggatgaatgtcacccgcagcgaggccctcagagggcaacattaccgtgacatgcagggctcttggc  
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MI CA\*026

[illegible]

MICA\*027

25 gtcctcggtataaacctcacggctgctgtcctgggaaggatctgtgcagtcagggttcttgcctgaggtacatctggga  
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tcaaggaccagaaagaaggcttgcattccctccaggagattagggictgtgagatccatgaagacaacagcaccag

gagc|cccagcat|t|c|a|c|a|g|g|g|g|a|g|c|t|t|c|c|t|c|c|c|a|a|a|c|c|g|g|a|g|a|c|g|g|a|c|g|c|c|c|  
c|a|g|t|c|c|c|c|a|g|a|g|c|a|g|a|c|t|g|g|c|c|a|g|a|a|c|g|t|c|a|g|g|a|a|g|a|g|c|c|a|g|a|g|a|c|a|g|a|c|a|c|  
a|c|a|t|a|c|a|g|c|t|a|g|c|a|g|c|a|g|c|t|g|c|c|g|c|a|g|g|a|a|c|a|c|g|g|c|a|t|c|t|a|g|a|a|t|c|c|g|g|c|g|a|g|t|c|c|g|a|g|g|a|g|a|c|  
a|g|t|g|c|c|c|c|c|a|g|g|t|g|a|a|g|t|c|a|c|c|c|g|c|a|g|c|g|a|g|g|c|c|c|a|g|a|g|g|g|c|a|a|c|a|c|c|g|t|g|a|c|a|t|g|c|a|g|g|g|c|t|c|c|a|g|c|  
t|t|c|a|t|c|c|c|c|g|g|a|a|t|a|c|a|T|a|c|t|g|a|c|c|t|g|g|c|t|c|a|g|g|a|t|g|g|g|g|t|a|c|t|t|g|a|g|c|c|a|g|a|c|c|c|c|a|g|c|a|g|t|g|g|g|g|g|  
a|t|g|t|c|c|t|g|c|t|g|a|g|g|g|a|t|g|g|a|c|c|t|a|c|c|a|g|a|c|t|g|g|t|g|g|c|c|a|c|c|a|g|g|a|t|t|g|c|c|g|a|g|g|a|g|g|a|g|c|a|g|a|g|t|  
c|a|c|c|t|g|c|t|a|c|t|g|g|a|c|a|c|a|g|c|g|g|g|a|t|c|a|c|a|g|c|a|c|c|c|t|g|t|g|c|c|t|c|t|g|g|g|a|a|g|t|g|t|g|t|g|c|t|c|a|g|a|t|  
c|a|t|t|g|g|c|a|g|a|c|t|c|c|a|t|g|t|t|c|t|g|c|t|g|t|g|c|t|g|c|t|g|c|t|g|c|T|a|t|t|t|t|g|t|a|t|a|t|a|t|t|t|c|a|t|g|t|c|c|g|t|t|  
g|t|t|g|a|a|g|a|g|a|a|a|c|a|c|a|c|a|g|c|t|g|c|a|g|a|g|g|t|c|c|a|g|(SEQ ID NO:140)

10 MICA\*028

gtcttcgttataacctcacggctgccttgggatggatctgtgcagtcagggttcttgcctgaggtacatctggat  
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ggaaaataagacatgggacagagagaccagggaactgacagggaaacggaaaggacctcaggatgaccttggctcata  
tcaaggaccagaaagaaggcttgcattccctccaggagattagggctgttgagatccatgaagacaacagcaccag  
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20 atgtcttgcctgatgggaatggaacctaccagacctgggttggccaccaggatttgccaaggagaggagcagaggtt  
caccctgctacatggaacacagcgggaatcacagcacaccctgtgtcccctctgggaaagtgttggtgcttcagagt  
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tgttgttaa (SEQ ID NO:141)

**MICA#029**

25 gtcttcgttataaccctacggctcgtccctgggaatggatctgtgcagtcagggtttctcgtcaggtacatctgga  
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lcaaggaccagaaagaaggcttgcattccctccaggagattagggctctgtgagatccaigaagacaacagcaccag  
gagctcccagcaatttctacacgaatggggagctcttccctcccaaaacctggagactgaggaatggacaatgccc  
cagctctccagagctcagaccttggccaigaacAtcaggaatttcttgaaggaagatgccatgaagaccaagacac  
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5 agtgccccccatgggtgaatgtcaccgcagcgaggccctcagagggcaacattaccgtgacatgcagggcttctggc  
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cattggcagacattccatgtttctgctgttgcctgctgctatatttgttattattatttctatgtccgttgtt  
10 gtaagaagaaaacalcagctgcagagggtccag(SEQ ID NO:142)

MICA#030

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15 tcaaggaccagaaagaaggcttgcatctccctccaggagattagggctctgtgagatccatgaagacaacagcaccag  
gagctcccagcatttctactacgatggggagctcttctctcccaaaacctgggagactgaggaatggacaatgcc  
cagctctccagagctcagaccttggccaatgaacgtcaggaatttcttgaaggaagatgccatgaagaccaagacac  
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20 tctatctccctggaatatcacactgagctggcgctcaggatggggtacttcttgagccacgacaccagcagctgggggg  
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**MICA\*031**

25 gtcctcggtataaacctcacggcgcgcctcgggaaggatcgtgcagtcagggcttcctgcctgaggtacatcggga  
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tcaaggaccagaaagaaggcttgcattccctccaggagattagggctcgtgagatccatgaagacaacagcaccag



gagctcccagcatttctactacgatggggagctcttccctcccaaaaccggagactaaggaatggacaatgccc  
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actatcacgctatgcatgcagactgccatgcaggaactacggcgatatactaaaatccggcgtagctccaggagaaac  
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5 tttctatcccgggaatatcacactgagctggcgatcaggaatgggtatctttagccacgacaccagcagtgggggg  
atgtcttgccatgatgggaatggaacctaccagacctgggtggccaccaggatttgccaaggagaggagcagaggtt  
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MICA#032

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15 TctatcacgctatgcatgcagactgccatgcaggaactacggcgatatactaaaatccAgcgtagctccaggagaaG  
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20 MICA#033

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25 gagctcccagcatttctactacgatggggagctcttccctcccaaaaccggagTctaggaatggacagtgccc  
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gltctcggtatataaccctcacggctgcgtccggggatggatctgtgcagtcagggcttctcgcigagglaacatctggga  
tggtcagccccctctcgcgtgtgacaggcagaaaaatgcagggcacaagccccaggacagtgggcagaagaatgtccig  
10 ggaaaataagacatgggacagagagaccagggaacttgacagggaacggaaaggacctcaggatgacctgggtctata  
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gagctcccagcatcttctactacgaatggggagctcttctctcccaaaacctggagactgaggaatggacaatgccc  
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15 agtgccccccatggatgaatgtcacccgcagcgaggccctcagagggcaacatcacccgtgacatgcagggcttccagc  
ttctatccccggaatatcacactgaCctggcgtcaggatggggtaattttgagccacgacaccagcagtgggggg  
atgtcttgccatgaatgggaatggaacctaccagacctgggtggccaccaggatttgccaaggagaggagcagaggtt  
cacctgctacatggaaacacagcgggaattcacagcactcaccttgctgcccctcgtg(SEQ ID NO:147)

20 gtccttcgtlatalaaccctcacggctgcctgcccGgggaatggatctgtgacagtcagggcttctcgcctgaggacatctggga  
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25 cagctctccagagctcagaccttggccatgaacgtcaggaattcttgaaggaagatgccatgaagaccaagacac  
actatcacgctatgcatgcagactgcctgcaggaactacggcgatacttaaaatccggcgtagtcttgaggagaac  
agtgccccccatgggtgaatgtcacccgcagcgaggcctcagagggcacaatatcaccgtgacatgcagggcttccagc

t t c t a t c c c c g g a a t a t c a T a c t g a c c t g g c g t c a g g a t g g g g t a t c t t t g a g c c a c g a c a c c c a g c a g t g g g g g g  
a t g t c c t g c c t g a t g g g a a t g g a a c c t a c c a g a c c t g g g t g g c c a c c a g g a t t t g c c g a g g a g a g g a g c a g a g g t t  
c a c c t g c t a c a t g g a a c a c a g c g g g a a t c a c a g c a c t c a c c c t g t c c c t c t g (SEQ ID NO: 148)

MICA#036

5 g t c t t c g t t a a c c t c a c g g t g c t g t c c g g g a t g g a t c t g t g c a g t c a g g g t t t c t c g t g a g g t a c a t c t g g a  
t g g t c a g c c c t t c c t g c g c t g t g a c a g g c a g a a a t g c a g g g c a a a g c c c c a g g g a c a g t g g g c a g a a g a t g t c c t g  
g g a a a t a a g a c a t g g g a c a g a g a c c a g g g a c t t g a c a g g g a a c g g a a g g a c c t c a g g a t g a c c c t g g c t a t a  
t c a a g g a c c a g a a a g a a g g c t t g c a t t c c c t c c a g g a g a t t a g g g t c t g t g a g a t c c a t g a a g a c a c a g c a c c a A  
g a g c t c c c a g c a t t t c t a c t a c g a t g g g g a g c t c t t c c t c t c c a a a a c c t g g a g a c t g a g g a a t g g a c a a t g c c c  
10 c a g t c c t c c a g a g c t c a g a c c t t g g c c a t g a a c g t c a g g a a t t t c t t g a a g g a a g a t g c c a t g a a g a c c a a g a c a c  
a c t a t c a c g c t a t g c a t g c a g a c t g c c t g c a g g a a c t a c g g c g a t a t c t a g a a t c c a g c g t a g t c c t g a g g a g a a c  
a g t g c c c c c c a t g g t g a a t g t c a c c c g c a g c g a g g c c t c a g a g g g c a a c a t t a c c g t g a c a t g c a g g g c t t c t g g c  
t t c t a t c c c t g g a a t a t c a c a c t g a g c t g g c g t c a g g a t g g g g t a t c t t t g a g c c a c g a c a c c c a g c a g t g g g g g g  
a t g t c c t g c c t g a t g g g a a t g g a a c c t a c c a g a c c t g g g t g g c c a c c a g g a t t t g c c a a g g a g a g g a g c a g a g g t t  
15 c a c c t g c t a c a t g g a a c a c a g c g g g a a t c a c a g c a c t c a c c c t g t c c c t c t g (SEQ ID NO: 149)

MICA#037

g t c t t c g t t a a c c t c a c g g t g c t g t c c t g g g a t g g a t c t g t g c a g t c a g g g t t t c t c g t g a g g t a c a t c t g g a  
t g g t c a g c c c t t c c t g c g c t g t g a c a g g c a g a a a t g c a g g g c a a a g c c c c a g g g a c a g t g g g c a g a a g a t g t c c t g  
g g a a a t a a g a c a t g g g a c a g a g a c c a g g g a c t t g a c a g g g a a c g g a a g g a c c t c a g g a t g a c c c t g g c t a t a  
20 t c a a g g a c c a g a a a g a a g g c t t g c a t t c c c t c c a g g a g a t t a g g g t c t g t g a g a t c c a t g a a g a c a c a g c a c c a g  
g a g c t c c c a g c a t t t c t a c t a c g a t g g g g a g c t c t t c c t c t c c a a a a c c t g g a g a c t g a g g a a t g g a c a a t g c c c  
c a g t c c t c c a g a g c t c a g a c c t t g g c c a t g a a c g t c a g g a a t t t c t t g a a g g a a g a t g c c a t g a a g a c c a a g a c a c  
a c t a t c a c g c t a t g c a t g c a g a c t g c c t g c a g g a a c t a c g g c g a t a t c t a a a a t c c g g c g t a g t c c t g a g g a g a a c  
a g t g c c c c c c a t g g t g a a t g t c a c c c g c a g c g a g g c c t c a g a g g g c a a c a t c a c c g t g a c a t g c a g g g c t t c c a g c  
25 t t c t a t c c c c g g a a t a t c a T a c t g a c c t g g c g t c a g g a t g g g g t a t c t t t g a g c c a c g a c a c c c a g c a g t g g g g g g  
a t g t c c t g c c t g a t g g g a a t g g a a c c t a c c a g a c c t g g g t g g c c a c c a g g a t t t g c c g a g g a g a g g a g c a g a g g t t  
c a c c t g c t a c a t g g a a c a c a g c g g g a a t c a c a g c a c t c a c c c t g t c c c t c t g (SEQ ID NO: 150)

## MICA#038

gtcttcgttataacctcacggctgctgctcctgggaaggatcgtgcagtcagggtttctcgtgaggtacalcitgga  
tggtcagcccttccctgcgtctgacaggcagaaaigcaggggcaaagccccaggacagtgggcagaagatgtcctg  
ggaaaataagacatgggacagagagaccagggaactigacagggaacggaaaggacctcaggatgacccctggctcata  
5 tcaaggaccagaaagaaggcttgcattccctccaggagattagggctctgtgagatccaigaagacaacagcaccag  
gagctcccagcatttctactacgatggggagctcttctctcccaaaacctggagactgaggaaiggaacatgccc  
cagctctccagagctcagaccttggccatgaacgtcaggaatttcttgaaggaagatgccatgaagaccaagacac  
actatcacgctatgcatgcagactgccctgcaggaactacggcgatactaaaaiccggcgtagctctgaggagaac  
agtgcccccatggatgaatgtcacccgcagcaggacctcagagggaacaatcaccgtgacatgcagggtctccagc  
10 tttctatccccggaatatcacactgacctggcgctcaggatggggctatctttgagccacgacaccagcagtgggggg  
atgtcctgcttgatgggaatggaacctaccagacctgggtggccaccaggatttggcaaggagaggagcagagggt  
caccctgctacatggaacacagcgggaatcacagcactcaccctgtgcccctctg (SEQ ID NO:151)

## MICA#039

gtcttcgttataacctcacggctgctgctcctgggaaggatcgtgcagtcagggtttctcgtgaggtacalcitgga  
15 tggtcagcccttccctgcgtctgacaggcagaaaigcaggggcaaagccccaggacagtgggcagaagatgtcctg  
ggaaaataagacatgggacagagagaccagggaactigacagggaacggaaaggacctcaggatgacccctggctcata  
tcaaggaccagaaagaaggcttgcattccctccaggagattagggctctgtgagatccaigaagacaacagcaccag  
gagctcccagcatttctactacgatggggagctcttctctcccaaaacctggagactgaggaaiggaacatgccc  
cagctctccagagctcagaccttggccatgaacgtcaggaatttcttgaaggaagatgccatgaagaccaagacac  
20 actatcacgctatgcatgcagactgccctgcaggaactacggcgatactaaaaiccggcgtagctctgaggagaac  
agtgcccccatggatgaatgtcacccgcagcaggacctcagagggaacaatcaccgtgacatgcagggtctccagc  
ttctatccccggaatatcatactgacctggcgctcaggatgggctatctttgagccacgacaccagcagtgggggg  
atgtcctgcttgatgggaatggaacctaccagacctgggtggccaccaggatttggcaggagaggagcagagggt  
caccctgctacatggaacacagcgggaatcacagcactcaccctgtgcccctctg (SEQ ID NO:152)

## 25 MICA#040

gtcttcgttataacctcacggctgctgctcctgggaaggatcgtgcagtcagggtttctcgtgaggtacalcitgga  
tggtcagcccttccctgcgtctgacaggcagaaaigcaggggcaaagccccaggacagtgggcagaagatgtcctg



tcaaggaccagaaagaaggcttgcatlccclccaggagatlagggctctgtgagatccatgaagacaacagcaccag  
gagclcccagcatttctacacgaiggggagctcttctclccaaaaccaggagactgaggaatggacaatgccc  
cagclccclccagagctcagaccttgcccatgaacgtcaggaatttcttgaaggaagatgccatgaagaccaagacac  
actatcacgctatgcatgcagactgccctgcaggaactacggcgatcttaaaatccggcgtaglccctgaggagaac  
5 agtgcacccccaatggatgaatgtcacccgcagcgaggccctcagagggaacatcaccttgacatgcagggcttccagc  
ttctatccccggaatatcatctgacctggcgctcaggatggggtatctttagccacgacacccagcagtgggggg  
atgtccctgctgaatgggaatggaacctaccagacctgggtggccacTaggatttgcagaggagaggagcagagggt  
cacctgctacatggaacacagcgggaatcacagcactcaccttgccccctg (SEQ ID NO:155)

MICA#043

10 gtcttctgtataaacctcacggctgtcttgggatggatctgtgcagtcagggttcttgcctgaggtacatctgga  
tggtcagcccltcttgcgtctgtacaggcagaaaatgcagggcaagccccaggagacatgggcagaagatgtctg  
ggaaaataagacatgggacagagagaccagggaactgtacagggaaacggaaaggacctcaggatgacctggctcata  
tcaaggaccagaaagaaggcttgcatlccclccaggagatlagggctctgtgagatccatgaagacaacagcaccag  
gagclcccagcatttctacacgaiggggagctcttctclccaaaaccaggagactgaggaatggacaatgccc  
15 cagclccclccagagctcagaccttgcccatgaacgtcaggaatttcttgaaggaagatgccatgaagaccaagacac  
gctatcacgctatgcatgcagactgccctgcaggaactacggcgatcttaaaatccggcgtaglccctgaggagaac  
agtgcacccccaatggatgaatgtcacccgcagcgaggccctcagagggaacatcaccttgacatgcagggcttctggc  
ttctatccccggaatatcacactgagctggcgctcaggatggggtatctttagccacgacacccagcagtgggggg  
atgtccctgctgaatgggaatggaacctaccagacctgggtggccaccaggatttgcgaaggagaggagcagagTtt  
20 caccctgctacatggaacacagcgggaatcacagcactcaccttgcccccttgggaaagtgtgggtgtctcagagt  
catggcagacattccatgttctgtctgt  
glaagaagaaaacatcagctgcagagggtccag (SEQ ID NO:156)

MICA#044

gtcttctgtataaacctcacggctgtcttgggatggatctgtgcagtcagggttcttgcctgaggtacatctgga  
25 tggtcagcccltcttgcgtctgtacaggcagaaaatgcagggcaagccccaggagacatgggcagaagatgtctg  
ggaaaataagacatgggacagagagaccagggaactgtacagggaaacggaaaggacctcaggatgacctggctcata  
tcaaggaccagaaagaaggcttgcatlccclccaggagatlagggctctgtgagatccatgaagacaacagcaccag

gagctcccagcatttctactacgatggggagccttccctccccaaaacgtggagactgaggaatggacagtgccc  
cagtcctccagagctcagaccttggccatgaacgtcaggaattcttgaaggaagatgccatgaagaccaagacac  
actatcacgctatgcatgcagactgccctgcaggaactacggcgatactagaatccagcglagtcctgaggagaaG  
agtgccccccatggigaatgtcacccgcagcaggccctcagagggcaacatcacctgacatgcagggtctccagc  
5 tttatccccggaatatcacactgaCctggcgctcaggatggggtactttgagccacgacaccagcagtgggggg  
atgtcctgccatgaggaatggaacctaccagacctgggtggccaccaggatttgcgaaggagaggagcagaggtt  
cacctgtctacatggaacacagcgggaatcacagcacacccctgtgcccctg (SEQ ID NO:157)

MICA\*045

gtcttcgttataacctcacggctgtctcgggaggaatcgtgcagtcagggtttctcgtcaggttaccttgga  
10 tggcagcccttccctgcctgtgacaggcagaaatgcagggcaaagccccaggacagtgggcagaagatgtcctg  
ggaaaataagacatgggacagagagaccagggtctgacagggaaacggaaaggacctcaggatgaccttggctcata  
tcaaggaccagaaagaaggcttgcatctccctccaggagattagggtcgtgagatccatgaagacaacagcaccag  
gagctcccagcatttctactacgatggggagccttccctccccaaaacctggagactgaggaatggacaatgccc  
cagtcctccagagctcagaccttggccatgaacgtcaggaattcttgaaggaagatgccatgaagaccaagacac  
15 actatcacgctatgcatgcagactgccctgcaggaactacggcgatactaaaaatccggcgtagtcctgaggagaac  
agtgccccccatggigaatgtcacccgcagtcaggccctcagagggcaacattaccctgacatgcagggtctctggc  
ttctatccccggaaatatcacactgagctggcgctcaggatggggtactttgagccacgacaccagcagtgggggg  
atgtcctgccatgaggaatggaacctaccagacctgggtggccaccaggatttgcGaaggagaggagcagaggtt  
cacctgtctacatggaacacagcgggaatcacagcacacccctgtgcccctcgggaaagtgttggtgcttcagagt  
20 catggcagacattccatgtttctgctgtgtgctgctgctatctttgttattattatttctatgtccgttgtt  
gtagaagaaaaacatcagctgcagaggggtccag (SEQ ID NO:158)

MICA\*046

gtcttcgttataacctcacggctgtctcgggaggaatcgtgcagtcagggtttctcgtcaggttaccttgga  
tggtcagcccttccctgcctgtgacaggcagaaatgcagggcaaagccccaggacagtgggcagaagatgtcctg  
25 ggaaaataagacatgggacagagagaccagggtctgacagggaaacggaaaggacctcaggatgaccttggctcata  
tcaaggaccagaaagaaggcttgcatctccctccaggagattagggtcgtgagatccatgaagacaacagcaccag  
gagctcccagcatttctactacgatggggagccttccctccccaaaacctggagactgaggaatggacaatgccc

[illegible]

**MICA#047**

[illegible]

**MICA#048**

gcttcgttataacctcacggctgcctcctgggatggatctctgcagtcagggttcttgcctagggtacatctgga  
25 tggtcagcccttcttgcgtatgacaggcagaaatgcagggcaaagcccgaggacagtgggcagaagaatctctt  
ggaaaataagacatgggacagagagaccagggtacatgacaggaacggaaaggacctcaggtgacctggctcata  
tcaaggaccagaaaagaaggcttgcattccctccaggagattagggtctctgagatccatgaagacaacagcaccag



gagctcccagcatctctactacgaiggggagctctctctccccaaaaccctggagactgaggaaaggacagtgcc  
cagctcccccagagctcagacctggccatgaacgtcaggaattcttgaaggaagaigccatgaagaccaagacac  
actatcacgctatgcatgcagactgcttcaggaactacggcgatactagaatccggcgtagtcttgaggagaac  
agtgcacccccaiggtgaatgtcacccgcagcgaggcctcagagggcaacatcacctgacatgcagggcttcagc  
5 tctatccccggaatatcactgacctggcgctaggatggggatctttgagccacgacaccagcagtgggggg  
atgtcttgcttgaigggaatggaacctaccagacctgggtggccaccaggatttgcggaggagaggagcagaggtt  
caccctgctacatggaacacagcggggaatcacagcacctacccctgtgcccctcgggaaagtgtggtgcttcagagt  
cattggcagacattccatgtttctgctgttgcctgctgctgctgctattttgtattattattttctatgtccgtt  
gttgaagaagaaaacatcagctgcagaTggtccagagctcgtgagcctgcaggctccggatcaacaccagttgg  
10 gacgagtgaccacagggatgccacacagctcggaattcagccctgaatgtcagctcttgggtccactggctccactt  
(SEQ ID NO:161)

**MICA#049**

[illegible]

In the following, Probe List M1 and M2 are shown in Tables 25-1 and 25-2 and Tables 26-1 and 26-2 and Tables 27-1 and 27-2 and Tables 28-1 and 28-2 respectively.

5

Table 25-1

Probe No.	Base Sequence
0	tgg gac aga gag acc agA ( SEQ ID No: 1)
1	tcc caa aac ctg gag act A ( SEQ ID No: 2)
2	g gaa cta cgg cga tat cta A ( SEQ ID No: 3)
3	cgg cga tat cta aaa tcc G ( SEQ ID No: 4)
4	cc tgg aat atc aca ctg aG ( SEQ ID No: 5)
5	t att ttt gtt att att att ttc taC ( SEQ ID No: 6)
6	c ctc acg gtg ctg tcc G ( SEQ ID No: 7)
7	gtg aat gtc acc cgc agT ( SEQ ID No: 8)
8	c gta gtc ctg agg aga aG ( SEQ ID No: 9)
9	t cag cct ctg atg tca gC ( SEQ ID No: 10)
10	cag ccc ttc ctg cgc tA ( SEQ ID No: 11)
11	gag act gag gaa tgg aca G ( SEQ ID No: 12)
12	cc cgg aat atc aca ctg aC ( SEQ ID No: 13)
13	gcc acc agg att tgc cG ( SEQ ID No: 14)
14	g cga tat cta gaa tcc agc A ( SEQ ID No: 15)
15	gg gac aga gag acc agG ( SEQ ID No: 16)
16	cc caa aac ctg gag act G ( SEQ ID No: 17)
17	gtt tct gct gtt gct gct G ( SEQ ID No: 18)
18	ag acc tgg gtg gcc acT ( SEQ ID No: 19)
19	t gct gct g gct gct gCT ( SEQ ID No: 20)
20	c acc cgc agc gag gcA ( SEQ ID No: 21)
21	ctc ttc ctc tcc caa aac G ( SEQ ID No: 22)
22	gc tcc cag cat ttc tac taT ( SEQ ID No: 23)
23	cgg cga tat cta gaa tcc A ( SEQ ID No: 24)
24	g tca gct ctt ggg tcc G ( SEQ ID No: 25)
25	cc atg aag acc aag aca cT ( SEQ ID No: 26)
26	tgc caa gga gag gag caA ( SEQ ID No: 27)
27	gaa cta cgg cga tat cta G ( SEQ ID No: 28)
28	c cag cat ttc tac tac gat A ( SEQ ID No: 29)
29	gct gca gag ggt cca gG ( SEQ ID No: 30)
30	c tgg cgt cag gat ggg C ( SEQ ID No: 31)

Table 25-2

Probe No.	Base Sequence
31	ggc ttg cat tcc ctc cG (SEQ ID No: 32)
32	c cca gtt ggg acg agt gT (SEQ ID No: 33)
33	ct gct gct gct gct gcT (SEQ ID No: 34)
34	a gaa gat gtc ctg gga aaC (SEQ ID No: 35)
35	t gtg cag tca ggg ttt ctT (SEQ ID No: 36)
36	gcc tca gag ggc aac atC (SEQ ID No: 37)
37	ct gct gct gct gct gcT (SEQ ID No: 38)
38	ttc tat ccc cgg aat atc aT (SEQ ID No: 39)
39	gtt gct gct gct gct gcT (SEQ ID No: 40)
40	cag acc ttg gcc atg aac A (SEQ ID No: 41)
41	gg aat cac agc act cac G (SEQ ID No: 42)
42	a cgg cga tat cta aaa tcc A (SEQ ID No: 43)
43	ctc tcc caa aac ctg gag T (SEQ ID No: 44)
44	ttc ttg aag gaa gat gcc G (SEQ ID No: 45)
45	cat gaa gac aac agc acc aA (SEQ ID No: 46)
46	ggg ttt ctc gct gag gG (SEQ ID No: 47)
47	caa gga gag gag cag agT (SEQ ID No: 48)
48	g gcc acc agg att tgc G (SEQ ID No: 49)
49	c agg gct tct ggc ttc tG (SEQ ID No: 50)
50	ag aaa aca tca gct gca gaT (SEQ ID No: 51)
51	at caa cac cca gtt ggg aT (SEQ ID No: 52)

Table 26-1

Probe No.	Base Sequence
0	a gag acc agA gac ttg aca (SEQ ID No: 53)
1	ctg gag act Aag gaa tgg a (SEQ ID No: 54)
2	cga tat cta Aaa tcc ggc g (SEQ ID No: 55)
3	cta aaa tcc Ggc gta gtc c (SEQ ID No: 56)
4	c aca ctg aGc tgg cgt c (SEQ ID No: 57)
5	att att ttc taC gtc tgt tgt t (SEQ ID No: 58)
6	tg ctg tcc Ggg gat gga (SEQ ID No: 59)
7	acc cgc agT gag gcc tc (SEQ ID No: 60)
8	g agg aga aGa gtg ccc c (SEQ ID No: 61)
9	tg atg tca gCt ctt ggg tc (SEQ ID No: 62)
10	c ctg cgc tAt gac agg c (SEQ ID No: 63)
11	gaa tgg aca Gtg ccc cag (SEQ ID No: 64)
12	c aca ctg aCc tgg cgt c (SEQ ID No: 65)
13	gg att tgc cGa gga gag g (SEQ ID No: 66)
14	gaa tcc agc Ata gtc ctg a (SEQ ID No: 67)
15	a gag acc agG gac ttg ac (SEQ ID No: 68)
16	ctg gag act Gag gaa tgg (SEQ ID No: 69)
17	gtt gct gct G gct gct g (SEQ ID No: 70)
18	g gtg gcc acT agg att tg (SEQ ID No: 71)
19	gct gct g gct gct gcT a (SEQ ID No: 72)
20	agc gag gcA tca gag gg (SEQ ID No: 73)
21	tcc caa aac Gtg gag act g (SEQ ID No: 74)
22	at ttc tac taI gat ggg gag (SEQ ID No: 75)
23	cta gaa tcc Agc gta gtc c (SEQ ID No: 76)
24	t ggg tcc Gct ggc tcc (SEQ ID No: 77)
25	cc aag aca cTc tat cac gc (SEQ ID No: 78)
26	a gag gag caA agg ttc acc (SEQ ID No: 79)
27	cga tat cta Gaa tcc ggc g (SEQ ID No: 80)
28	tac tac gat Agg gag ctc t (SEQ ID No: 81)
29	g ggt cca gGg ctc gtg (SEQ ID No: 82)
30	cag gat ggg Cta tct ttg a (SEQ ID No: 83)

Table 26-2

Probe No.	Base Sequence
31	at tcc ctc cGg gag att ag (SEQ ID No: 84)
32	t gct gct gct gct gcT at (SEQ ID No: 85)
33	ct gct gct gcT att ttt gtt (SEQ ID No: 86)
34	c ctg gga aaC aag aca tgg (SEQ ID No: 87)
35	a ggg ttt ctT gct gag gta (SEQ ID No: 88)
36	g ggc aac atC acc gtg ac (SEQ ID No: 89)
37	gct gct gct gct gcT att (SEQ ID No: 90)
38	cgg aat atc aTā ctg acc tg (SEQ ID No: 91)
39	gcc atg aac ATc agg aat tt (SEQ ID No: 92)
40	gc act cac Gct gtg ccc (SEQ ID No: 93)
41	cta aaa tcc Agc gta gtc c (SEQ ID No: 94)
42	aac ctg gag Tct gag gaa t (SEQ ID No: 95)
43	gaa gat gcc Gtg aag acc (SEQ ID No: 96)
44	c agc acc aAg agc tcc c (SEQ ID No: 97)
45	c gct gag gGa cat ctg g (SEQ ID No: 98)
46	g gag cag agT ttc acc tg (SEQ ID No: 99)
47	agg att tgc Gaa gga gag g (SEQ ID No: 100)
48	ct ggc ttc tGt ccc tgg a (SEQ ID No: 101)
49	a gct gca gaT ggt cca ga (SEQ ID No: 102)
50	ca gtt ggg aTg agt gac c (SEQ ID No: 103)

Table 27-1

Allele Number		Probe Number for Detection				
MICA*001	0	1	2	3	4	
MICA*00201	5					
MICA*00202	6	7				
MICA*004	8	9				
MICA*005	10	11	12	13		
MICA*006	14					
MICA*00701	7					
MICA*00702	15	16				
MICA*00801	17	9				
MICA*00802	18	19				
MICA*00803	20					
MICA*00901	21	9				
MICA*00902	22					
MICA*010	23	13	9			
MICA*011	24					
MICA*01201	25					
MICA*01202	26					
MICA*013	6	27	13			
MICA*014	28	8				
MICA*015	28	29				
MICA*016	30	9				
MICA*017	31					
MICA*018	16					
MICA*019	32					
MICA*020	33					
MICA*021	34					
MICA*022	6	23	13			
MICA*023	6	17				
MICA*024	35	10	11	36	12	
MICA*025	35	16				

Table 27-2

Allele Number	Probe Number for Detection		
MICA*026	7	37	
MICA*027	38	39	
MICA*028	27	17	
MICA*029	40		
MICA*030	41		
MICA*031	35		
MICA*032	25	42	8
MICA*033	43		
MICA*034	44	12	
MICA*035	6	38	
MICA*036	45		
MICA*037	38		
MICA*038	36		
MICA*039	30		
MICA*040	15		
MICA*041	46	5	
MICA*042	18		
MICA*043	47		
MICA*044	6	8	12
MICA*045	48		
MICA*046	49		
MICA*047	46	41	
MICA*048	50		
MICA*049	51		

Table 28-1

Allele Number	Probe Number for Detection				
	0	1	2	3	4
MICA*001	0	1	2	3	4
MICA*00201	5				
MICA*00202	6	7			
MICA*004	8	9			
MICA*005	10	11	12	13	
MICA*006	14				
MICA*00701	7				
MICA*00702	15	16			
MICA*00801	17	9			
MICA*00802	18	19			
MICA*00803	20				
MICA*00901	21	9			
MICA*00902	22				
MICA*010	23	13	9		
MICA*011	24				
MICA*01201	25				
MICA*01202	26				
MICA*013	6	27	13		
MICA*014	28	8			
MICA*015	28	29			
MICA*016	30	9			
MICA*017	31				
MICA*018	16				
MICA*019	23	13	32		
MICA*020	33				



Table 28-2

Allele Number	Probe Number for Detection				
MICA*021	34				
MICA*022	6	23	13		
MICA*023	6	17			
MICA*024	35	10	11	36	12
MICA*025	35	16			
MICA*026	7	37			
MICA*027	38	32			
MICA*028	27	17			
MICA*029	39				
MICA*030	40				
MICA*031	35				
MICA*032	25	41	8		
MICA*033	42				
MICA*034	43	12			
MICA*035	6	38			
MICA*036	44				
MICA*037	38				
MICA*038	36				
MICA*039	30				
MICA*040	15				
MICA*041	45	5			
MICA*042	18				
MICA*043	46				
MICA*044	6	8	12		
MICA*045	47				
MICA*046	48				
MICA*047	45	40			
MICA*048	49				
MICA*049	50				

The present invention is not limited to the above embodiments and various changes and modifications can be made within the spirit and scope of the present invention. Therefore, to apprise the public of the scope of the present invention, the following claims are made.

This application claims priority from Japanese Patent Application Nos. 2003-430553 filed on December 25, 2003, 2003-430554 filed on December 25, 2003, 2003-430555 filed on December 25, 2003, 2003-430556 filed on December 25, 2003, 2003-430557 filed on December 25, 2003, 2003-430558 filed on December 25, 2003 and 2003-430559 filed on December 25, 2003, which are hereby incorporated by reference herein.